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LECTURES
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BY
MR. YOUATT.

LECTURE XII.

OZENA IN THE HORSE.—WORMS IN THE NOSTRIL OF THE HORSE.—OZENA AND CORYZA IN CATTLE AND SHEEP.

Ozena is ulceration of the Schneiderian membrane, not always, or often, visible, but recognised by the discharge of muco-purulent matter, and from the peculiar fœtor from which the disease derives its name. It resembles glanders in being confined in most instances to one nostril, and the submaxillary gland on the same side being enlarged; but differs, however, from it, in the gland not being adherent, and the discharge from its earliest stage being purulent and stinking.

How distinguished from other Diseases.—There is sometimes a fœtid discharge from the nostril in consequence of inflammation of the lungs, or produced by some of the sequelæ of pneumonia. When, after rapid congestion, there has been a breaking down of the substance of the lungs, and mortification has seemed to have commenced during the life of the animal, and also when vomicæ have burst, there has been a considerable discharge of purulent matter, distinguished however from ozena, by its usually flowing irregularly, and being coughed up in great quantities, and more decidedly purulent, and the gland or glands seldom affected. The discharge from ozena is constant, muco-purulent, and unattended by enlargement of the glands. It is of immense consequence that we should be enabled to distinguish the one from the other; for while ozena may sometimes, at least, be manageable, the other is the invariable precursor of death.

Cause.—The cause of ozena cannot always be discovered. Chronic inflammation of the membrane may assume another and a malignant character. In severe catarrh the membrane may become abraded, and the abrasions may degenerate into foul and fœtid ulcers. It is not an unfrequent consequence of epidemic catarrh. It has been produced by caustic applications to the lining membrane of the nose. It has followed hæmorrhage, spontaneous, or as the consequence of injury. I had a horse, not many months ago, sadly ill with epidemic catarrh; the soreness of his throat almost precluded the possibility of balling, and in the administration of a drench, he struggled and snorted, and began to bleed profusely from the nose, and, three days afterwards, the smell from that nostril was in the highest degree offensive.

In some cases, and those as obstinate as any, I have not been able to trace any probable cause, and the health of the animal has not appeared to be in the slightest degree affected.

The membrane of the nose is highly sensitive and irritable, and an ulcer, in whatever way formed on it, does not readily heal. It runs on to gangrene; it destroys not only the membrane, but the bone beneath, and the cartilaginous septum does not escape. This is rarely the case in glanders: the ravages of the chancrous ulcers are usually confined to the membrane. I have seen caries of the greater part of the superior turbinated bone, when there was no reason to suspect glanders. The ulceration proceeds to a certain point—its progress is then arrested, usually by nature alone—the discharge gradually lessens—it loses its offensive character, and at length ceases. It is a most annoying disease, for the whole stable is tainted with the smell, and although the discharge may almost cease to appear, the stench will remain week after week in spite of all our efforts.

Treatment; External Applications.—Well, Gentlemen, we must do something. Local applications; are they available? I fear not. There are two sufficient reasons against their use. We seldom know the place of the ulceration, and if we did, we probably could not get at it. You will recollect

what I have said about this when treating of glanders. Some have recommended setons. Where are they to be applied? If the seat of ulceration is unknown, the seton will only give useless pain. The trephine;—where again shall we apply it? Some post-mortem examinations have shown, that the frontal sinuses were the seat of disease. If we could be sure of that in every case, we might easily get at them. Yet what injection should we use? An emollient one would be thrown away. A stimulating injection might convert ozena into glanders. Other examinations, however, have shown that the superior portion of the central meatus was diseased. What instrument can be contrived to reach that?

Internal Medicines?—I take them to be completely thrown away. I know nothing of *antiseptics* in the horse or cattle, and as for *tonics*, they have all been tried over and over again, and without the slightest benefit.

Fomentations.—Yet we may do something. We may do something, perhaps, under the form of a local application. The discarded nose-bag, (undervalued at least by too many practitioners,) will afford the means of employing an emollient fomentation. The steam from a bran-mash scalding hot, will probably reach every part of the nasal cavity, and so afford some chance of being beneficially applied to the ulcer. It will at least thoroughly cleanse the part. By means of the nose-bag and the warm mash, the chloride of lime may be introduced into the cavity, not only combining with the extricated gases and removing the fœtor, but arresting the tendency to decomposition.

Then there is a digestive—a gentle stimulus to abraded and ulcerated surfaces, rousing them to healthy action, and without too much irritating them—turpentine. We may apply this in the form of vapour, and in the best of all ways, by using the fresh yellow deal shavings instead of bran. This digestive may be brought into contact with every part of the Schneiderian membrane, and has been serviceable.

The ulcer, however, may not be in the cavity of the nose, or if it be there, it may bid defiance to a stimulus so gentle as this, and a more powerful one we should hardly dare to use. Then we have another resource, and one that bids fairer to be successful than any other with which we are acquainted. The spring grass;—it is the finest alterative, depurative, and restorative in our whole materia medica; and if a salt-marsh should be at hand, we have still better hopes. The horse to which I just now referred was turned into a salt-marsh for five or six months; he came up with only a faint smell remaining, and that is gradually disappearing; but then I turned out another horse in the preceding spring, and as nearly as possible in the same state, and he became glandered and died.

WORMS.

These parasites have been found in the nasal cavity of the horse, or the sinuses connected with it. A mare had chronic nasal gleet, accompanied by frequent and distressing cough. Bleeding and sedative medicines had been tried in vain. The groom had heard strange stories of worms and the larvæ of certain insects finding their way into the nose and the cells connected with it. I ridiculed the idea, but on the same evening he blew a small quantity of pepper up the nostril of the horse, and in his violent sneezing, two small worms were discharged. I did not see them, and I have only the word of the groom for the fact, who with great triumph told me of the circumstance on the following morning; but I do know, that from that time the cough abated, and the animal soon got perfectly well.

Bourgelat relates a case in which a horse discharged a worm of the filaria species from his nose. He had been gradually wasting, and he continued to waste, and died. A post-mortem examination did not unfold any evident cause of death, but discovered other worms of the same same species in the frontal sinus.

CATTLE—FRACTURE.

Cattle are not so much exposed to fracture of the nasal or superior maxillary bones as the horse is. The blows that are aimed at them, both by man and brute, generally fall comparatively harmless on the broad expanse of the frontals above, which, from the strength of their curiously-constructed base, almost defy injury. The means pursued to reduce fracture would be the same, with the important advantage of not having the fear of glanders before our eyes.

CORYZA IN CATTLE.

Coryza is more frequent in cattle than in the horse, accompanied by the same mucous, purulent, fœtid, excoriating discharge, but not so often running on to catarrh, bronchitis, pneumonia, and phthisis.

Causes.—The prevailing causes are the same overheated houses, or imprudent exposure to cold; but the membrane of the nose is not so much irritated, or disposed to inflammation, by ammoniacal gas, or other injurious effluvia. A cow-house may be as injudiciously close and heated as a stable, but its atmosphere will be of a very different character; no pungent vapour will there irritate the Schneiderian or conjunctival membranes, because the urine of the ox does not contain the superabundant quan-

tity of ammonia which is found in that of the horse, and held by so loose an affinity. There is, however, one unsuspected, but too powerful occasional cause of irritation and inflammation of the Schneiderian membrane in cattle, namely, the dust and gravel of the road. The ox was not designed to be exposed like the horse to this annoyance. He has no false nostril to turn off the current of minute and irritating particles from the more susceptible parts of the nasal cavity. Oxen driven any considerable distance to fair or market in dry and sultry weather, are sure to suffer, and sometimes materially, from coryza. Dairy men, whose cows have to travel half a mile or more, morning and evening, along a dusty road, wonder that with all their care the beasts should be so subject to hooze. The cause is too palpable, although little suspected by them.

The symptoms of coryza are the same—snorting, laborious breathing. The discharge the same; aqueous; transparent at first; and gradually becoming opaque, mucous, purulent, and bloody.

Periodical Coryza.—There is a periodical appearance of coryza in the ox not observed in the horse. During the winter season, and probably from our mismanagement—from undue exposure of the animals to cold, or to extremes of heat and cold—there is a considerable nasal gleet; not interfering much with health, but unpleasant to the eye and troublesome to the animal; and which, in despite of all our medical treatment, will remain. Do not let us be too much alarmed, for when the genial warmth of spring returns, it will disappear as suddenly as came its attack. Yet not always: it has continued purulent, green, bloody, for years, and the health has been scarcely affected, because the Schneiderian membrane has not been previously exposed to the same injurious and debilitating influences as in the horse. Therefore it is that the farmer scarcely regards a cough, although a harassing and long-continued one, in his cattle, for in the majority of instances the beast carries its usual flesh, and yields its full quantity of milk, and it is only when the milk fails, and rapid emaciation is perceived, that he begins to look about him.

Caution to the Practitioner.—You, Gentlemen, I hope, will not be so apathetic, if you have the power to interfere; for cases will occur, and perhaps too frequently for the full maintenance of your professional reputation, in which, as I have just told you, the inflammation will extend to the fauces, and creep down the trachea, and invade the lungs, and lay the foundation for tubercles, vomicæ, and death.

Treatment.—If you have the opportunity without seeming to look out for, and unnecessarily to make, cases, you will warn the farmer of the imprudence and danger of neglect, where inflammation of any portion of the respiratory passages is evident.

In treating the animal with inflammation of this, the first of the respiratory passages, you will anxiously inquire whether the disease may not have proceeded further. Is there cough, and that plainly giving the animal pain? any increased labour in breathing? diminution of appetite? suspension of rumination? fever? ascertained by the symptoms just enumerated, but more by the pulse. Does that much exceed 40, the natural standard in a healthy middle-sized animal? You will in cattle, as in the horse, best examine the pulse where the submaxillary artery passes over the edge of the lower jaw to be distributed on the face, but you must look for it at least an inch and a half nearer the tuberosity of the lower jaw than you find it in the horse. The degree of animal temperature will likewise guide you as to the existence and extent of fever. You usually ascertain this in the horse by putting your finger in the mouth of your patient; you must not do so here, at least with a horned animal, lest the farmer should suspect that you knew not how to handle a beast. You would obtain the degree of temperature as accurately as you would in the horse, but the farmer has found out another place where with greater ease, and almost equal accuracy, he obtains it,—at the base of the horn. I shall have to show you that the bone of the horn is by far the most vascular one in the frame of the ox,—that it is perforated by innumerable blood-vessels, and that the horn, properly speaking, is either a prolongation of the cuticle, or is most intimately united with it, and, at its base, not thicker than it; and therefore when grasped by the head, giving the temperature of the blood flowing immediately underneath. The farmer knows no other place at which he may ascertain the heat of the blood, and you must humour him by doing that which all who are much used to cattle invariably do.

Proper Medicine and Dose.—You will be guided by the degree of fever. If little or none is indicated, a warm mash, and a dose or two of cooling medicine, will probably set all right. The medicine will be that which I have recommended for the horse—the digitalis, tartarised antimony, and nitre, in the same proportions, but only in half the quantity. I would lay this down as a rule, that the ox, into whose true digestive stomach your medicine may be introduced at once, when given in the form of a drink, requires but half the quantity which you would give to the horse, in whose vascular, half cuticular stomach it is received. Our

continental neighbours, and some English practitioners, erroneously reverse this.

The dose must depend on the degree of fever; but in usual cases, and for a moderate-sized animal, I should consider half a drachm of digitalis, three quarters of a drachm of tartarised antimony, and two drachms of nitre, a medium dose. And, once for all, I would state, that cattle medicines, unless those which are designed to be stomachic, and I do not know that I should often except them, should be given in the form of drink. They then pass at once into the fourth or true stomach, and produce their effect; but a ball, by its weight, breaks through the curiously-constructed œsophagean canal which I shall have to describe to you, and enters the cuticular macerating reservoir, the rumen, where the only effect it can produce will be a mischievous one, for it will give an unpleasant taste to the food, and nauseate the animal, and lead to the cessation of rumination, and be followed by indigestion, extrication of gas, and tympanitis of the stomach, and thus necessarily aggravate the previous disease.

If the inflammation has spread, and fever exists, it will be prudent to bleed and physic; but the disease has now assumed a new character; it is catarrh, or something worse, and the treatment to be pursued will be considered under the proper heads.

OZENA IN CATTLE.

Of *Ozena* in cattle I have seen but few cases, and they seemed to belong to that periodical coryza—a nasal gleet, with the cure of which nature has a great deal more to do than the veterinary surgeon.

GLANDERS IN CATTLE.

Of *Glanders* in cattle I know nothing; that which approached the nearest to it was a case of chronic coryza, that ultimately yielded to medical treatment. I do not, however, think that this point is yet fairly settled; it is a very important one, and an interesting field for research and experiment lies before you. So far as cattle and sheep are concerned, I stand before you the first public lecturer, South of the Tweed, who has condescended systematically to notice their diseases. There is an honourably splendid exception at Edinburgh;—but the instruction of Mr. Dick have hitherto been, but I trust will not always be, confined to his class. Sometimes I feel oppressed by a consciousness of the disadvantageous situation in which I am placed. Well, Gentlemen, I can only give you the experience of an individual, but I may have the happiness to enlist you in that cause in which I am labouring,—the improvement of this most important and shamefully-neglected branch of our profession, the knowledge and treatment of the diseases of cattle, sheep, and every domesticated animal; and my successor—in this chair I must not call it, although I will venture to predict, that when our undervalued, degraded profession has a little more worked its way, a chair of veterinary medicine will be established here, and will never be removed while the University of London stands on its basis—my successor, I say, in this situation, will have a pleasanter and a more satisfactory task to perform. Gentlemen, this is a subject for your serious investigation.

FARCY IN CATTLE.

We have no case of glanders, according to the hitherto-acknowledged acceptation of the term, but we have cases of that which bears too strong a resemblance to *farcy*. M. Sorillon, veterinary surgeon at Absac, in the department of the Gironde in France, has placed upon record the most satisfactory account of this disease of doubtful character. In four oxen, each of which had considerable cough, a large corded absorbent could be traced from the inside of the upper part of the fore-arm to the fetlock. *Farcy buttons* were evident, not only to the touch but to the eye, through the whole extent of the corded vessel. Most of them were hard, scirrhous; but others suppurated and ulcerated. It was the first time that he had seen a disease of this kind in the ox, and he was struck with, and alarmed by, its similarity to farcy, and he adopted the measures to which he would have had recourse in a case of farcy. He applied the budding iron; the wounds healed, the cordiness of the absorbent was gradually diminished, and the cough disappeared. Two months afterwards, however, the farcy buttons and the corded absorbent were seen again, and *the cough returned at the same time*. Two were perfectly cured, and of the other two, including the one that experienced a relapse, he could gain no after-intelligence. These cases occurred in the space of about three years, and the disease was not communicated to any of the oxen that fed in the same pasture. These are suspicious cases, but we must suspend our judgment until we have accumulated more facts. If they were cases of farcy, the disease assumed a very mild character, and was unusually manageable. I am far from sure that there might not have been some disease of the foot—foot-rot—although not of a very malignant kind; otherwise M. Sorillon would have noticed it, and connected it with the supposed farcy. Cattle are occasionally subject to ulcers about the joints, and then these little buttons, or buds, are generally seen running along the

course of the veins. I have seen them continue in their hard state for several months, when the farmer would not have anything done to them, and at length they have dispersed; but, at other times, they have burst, and ulcers have been formed exceedingly difficult to heal, and the matter from which has corroded, and ulcerated the neighbouring parts. When there did not appear to be any great swelling of the foot, or any ulceration, I have known the inflammation extend up the leg, and involve the whole of the cellular membrane of that extremity, and even destroy the animal, by the constitutional disturbance which it created. I have now in the house a plain and palpable case of that, in a deer, that died at the gardens of the Zoological Society, from pure irritative fever, occasioned by inflammation of the foot—foot-rot—and the absorbents were here corded, but not buttoned. We shall know more about these things in due time.

CORYZA IN SHEEP.

Coryza is a frequent disease in these animals, and arising usually from the same prevalent cause, undue exposure to extreme cold in the winter. Matter will be seen running from the nostrils of three-fourths of the sheep in some flocks; it will annoyingly plug up the narrow aperture of the nasal cavity, already filled by the singular development of the ethmoid and turbinated bones. The animal will be arrested at every second or third bite at the herbage, and will snort violently, or stand with his head protruded, labouring for breath. Some have said that this is contagious; we have no proof that it is so; it spreads through the flock, but all the sheep have been exposed to the same exciting cause.

Periodical.—This will continue during the winter months. The health of the sheep seems to be little or not at all affected; it is a mere local affair; there is not even any enlargement of the submaxillary glands. Then, as in oxen, as soon as the warm breezes of spring are felt, the discharge rapidly diminishes, and, whether we are to attribute it to the genial change of the season, or to the medicinal power of the first flush of grass, in the course of a week or two, not a vestige of disease remains in nine-tenths of the flock.

Fatal to some,—but the tenth part. Why that which renovates the others produces in this tenth a faint struggle against the foe; and then they become weaker and weaker; the inflammation spreads, and affects other passages; ulcers are in the nose; every sinus is full of pus; the larynx, the trachea, the bronchial tubes, are lined by a kind of false membrane, composed of mingled mucus and pus, and underneath that is a flush of inflammation of the intensest kind, with deep and spreading ulceration; and the animal gets weaker still, and more and more emaciated, until pulmonary consumption is confirmed, and death closes the scene.

Seldom treated by the Veterinarian.—Sheep are, even by intelligent farmers, scarcely deemed worthy of medical notice, and except there is some epidemic or contagious disease, and where in truth the skill of the surgeon is of little or no avail, he is rarely consulted about them. On this account it is that the veterinary surgeon has seldom condescended to give to the disease of sheep a moment's consideration, and thus all parties have suffered. The veterinary surgeon has not had the credit of being competent to this branch of his profession, and the flocks of the farmer have been thinned by many a malady, for which the united labours of veterinarians would long ere this have discovered a preventive or a palliation, if not a cure. It will not be always thus. The proper extent of veterinary science begins now to be appreciated, and the schools must recognise it, and the veterinarian and the agriculturist will be equally benefited.

Proper Treatment.—In some cases I have given with benefit the fever powder already recommended for horses and cattle, and in doses of from 10 grains to a scruple of the compound. There have been fewer of the fated lot remaining, and some of them have been redeemed from the destruction that seemed to await them. If we cannot, however, do much as to the medical treatment of this disease, we can do more in the way of prevention. If we cannot hasten the return of spring, we can remove the shiverers to a drier and warmer situation—we can encourage the growth of the thick and almost impervious hedge, or of the tree whose winter foliage will always afford a shelter. Agriculturists begin to be aware of the necessity of some protection for the ewe that has just yeaned, and for the newly-dropped lamb. They have purchased their experience at a dear rate, but they have learned a lesson of wisdom and humanity.

Not Glanders.—The disease that I have been describing is called by some the *glanders* of sheep, but it has no affinity to that malady in the horse. The result of several experiments, so far as they have been carried, is that the sheep is not susceptible of glanders. I should be cautious of trying the experiment with a valuable flock, but I never yet heard of an instance of the disease being communicated by a glandered horse feeding in the same pasture with sheep. The matter of glanders has been thrust up the nostril of a sheep without bad effect, and the horse has been inoculated without ill result

with the matter from the nose of a sheep labouring under bad coryza.

Not Irritation from the Larvæ of Flies.—You will be careful, Gentlemen, that you do not confound this disease with another discharge, small and limpid, but accompanied by seemingly insupportable annoyance to the animal, who is snorting, and throwing himself about, and galloping in every direction. This occurs in the summer—it attacks only a few of the flock, and it is occasioned by the larvæ of the Œstrus Equi crawling up the nostril to reach their destined residence during the first form which they assume.

Of the swine I am not able to speak from experience, and I will not mislead you by hearsay reports from others.

LECTURE XIII.

CORYZA, OZENA, AND DISTEMPER, OR NASAL CATARRH, IN THE DOG.

CORYZA.

We have coryza in the dog sufficiently plain. We see him snorting in a very peculiar way, with his head protruded, for a minute or two at a time. I say snorting in a peculiar way, for the inspiration is as forcible as the expiration. The air is hurried backward and forward, as if to dislodge something that had lodged on the Schneiderian membrane, and was a source of irritation.

An emetic will usually afford relief. Of the modus operandi I am not certain: possibly, in the act of vomiting, some obstruction or deposition of mucus is forced out. In obstinate cases I have given grain doses of the sulphate of copper, made into a ball with linseed meal, with marked advantage.

OZENA.

We have frequent cases of *ozena* in old dogs. The discharge is abundant and constant, and sometimes fœtid. The Schneiderian membrane, of more than usual sensibility in this animal, is exposed to many a cause of irritation, and debilitated and worn out before its time. Pugs are particularly subject to ozena. I scarcely ever knew a very old pug that had it not to a greater or less degree. The peculiar depression between the nasal and frontal bones in this breed of dogs, while it almost totally obliterates the frontal sinuses, may narrow the air-passage at that spot, and cause greater irritation there from the usual rush of the air, and especially if the membrane became inflamed or any foreign body insinuated itself.

I have nothing to recommend you here, but cleanliness. It is, in the majority of cases, a disease of old age, and it must take its course.

WORMS IN THE NOSE.

I have seen several cases of *worms* in the nose of the dog, and a sad nuisance they have been. There is a worm inhabiting the stomach and duodenum of young dogs, a frequent cause of sickness, and occasionally of spasmodic colic, when they roll themselves into knots (the ascaris marginata), and of which I shall endeavour to give some account when treating of the vermes. It seems occasionally to take a dislike to its assigned residence, and it wanders rarely into the larger intestines, but often into the œsophagus. A dog had dreadful cough which could not be subdued by bleeding or physic, or sedative or opiate medicine. He was destroyed, and one of these ascarides was found in the trachea. Others find their way into the nasal cavity, and a dreadful source of irritation they are there. Possibly they are endeavouring to escape, in order to undergo one of the changes of form to which they are destined, or they might have been forced into the nostril in the act of vomiting. I once had a dog as a patient whose case I confess I did not understand; he would sneeze and snort and rub his head and nose along the carpet, and fight at his nose and the corners of his mouth. I happened to say that the symptoms, in some respects, resembled those of rabies, and yet that I could not satisfy myself that the dog was rabid. The mention of rabies was sufficient, and in spite of my remonstrances the animal was destroyed. Of course, the previous symptoms led me to examine the nasal cavity among other parts, and I found two of these vermin, one concealed in the middle, and the other in the upper meatus, through neither of which could any strong current of air be forced, and from which the ascarides could not be dislodged. There is a similar account in one of the French veterinary periodicals.

I know not what to advise you to do here, or how in fact clearly to ascertain the existence of the evil.

DISTEMPER.

The next disease of the nasal cavity in the dog deserves particular and lengthened notice, and yet I fear that, although this quadruped has been included in my list of patients for twenty years, and I have seen at least twenty thousand cases of distemper, the account which I shall be able to give you of it will not be satisfactory. Nineteen years ago, I should have had no hesitation in telling you that I knew all about it; and now I know but little with certainty.

The *distemper* is a singular name by

which to distinguish this malady. When it was first observed on the continent, the rapidity with which it spread, the strange protean appearances which it assumed, and its too frequently fatal termination, surprised and puzzled the veterinarians. They could not tell what to make of it; and they called it "La Maladie des Chiens," the disease or distemper of dogs.

New Disease.—It is, comparatively, a new disease. English writers, sixty or seventy years ago, make no mention of it. It was imported from France, although some French authors affirm that it is of British origin. It first appeared as a widely-extended and fatal epidemic in France, in 1714. Two years afterwards it comparatively disappeared, or at least was not recognised as a common disease until the year 1762, when it destroyed a vast number of dogs, and particularly in the neighbourhood of Boulogne. Having once gained footing among us, it has established itself in our country to the vexation and loss of the sportsman, and the annoyance and disgrace of the veterinary surgeon. However keepers, or even men of education, may boast of their specifics, it is a sadly fatal disease, and destroys full one third of the canine race.

The ages most subject to it.—Dogs of all ages are subject to its attack. Many, nine and ten years old, have died of pure distemper; and I have seen puppies of only three weeks fall victims to it: but it oftenest appears between the sixth and twelfth month of the animal's life. If it occurs at an early period, it, in the great majority of cases, proves fatal; and if the dog be more than four years old, it generally goes hard with him. It is fatal in young dogs, because they have not strength to combat a malady insidious and violent. It is fatal in old dogs because the elasticity and energy of the system are gone.

Contagious.—It is undeniably, and highly, contagious; yet it is frequently generated. In this it bears an analogy to mange, farcy, and glanders in the horse. One attack of the disease, and even a severe one, is no absolute security against its return. The immunity, or preventive influence, is gradually worn out, and in less than three years ceases to exist; and if the dog is then attacked a second time, the malady assumes a milder type. I have known it, however, occur three times in the same animal, and at last destroy him.

Causes.—Violent catarrh will often terminate in distemper; and low and insufficient feeding will produce it. It frequently follows bad mange, and especially if mercury has been used in the cure of the eruption. When I see a puppy with mange, and that peculiar disease in which the skin becomes corrugated, and more especially if it be a spaniel, and pot-bellied or ricketty, I generally say that I can cure the mange, but that the dog will soon afterwards die of distemper: and so it happens in three cases out of four. Low and insufficient food will predispose to or produce distemper; so will confinement in an ill-ventilated place. Filth of every kind is a powerful predisposing cause. The cellars of the dog-stealers are the very foci of distemper, and not one dog in half a dozen escapes. Whatever debilitates the constitution, predisposes for the reception or the generation of distemper. It however frequently occurs without any apparent exciting cause.

Inoculation.—That it is highly contagious cannot admit of doubt. A healthy dog can seldom for many days be kept with another that labours under distemper without becoming affected; and I have seen it communicated by the slightest momentary contact. Yet there is a great deal of caprice about this; and I have more than once kept a dog in the foul ward of my hospital for several successive weeks, and he has not become infected. Inoculation with the matter which flows from the nose, either limpid or purulent, and in an early or advanced stage of the distemper, will, with few exceptions, produce the disease; yet I have failed in attempting to communicate it even by this method. Inoculation used to be recommended as producing a milder and less fatal disease: so far as my experience goes, the contrary has been the result.

Epidemic.—While it is thus generated and contagious, distemper is, likewise, epidemic. It occurs more frequently in the spring and autumn than in the winter, and, without comparison, more frequently than in the summer. If one or two dogs in a certain district are affected, we may be perfectly assured that it will soon extensively prevail there; and, where the disease could not possibly be communicated by contagion. Sometimes it is, properly speaking, epidemic. It rages all over the country. At other times it is endemic. It is confined to some particular district.

The very Forms of it are Epidemic. Not only is the disease epidemic, or endemic, but the form which it assumes is so. In one season, almost every dog with distemper has violent fits; at another time, in the majority of cases, there will be considerable chest affection, running on to pneumonia; a few months afterwards, a great proportion of them will be worn down by diarrhœa, which no medicine will arrest; and presently it will be scarcely distinguishable from mild catarrh.

Difference in different kinds of Dogs.—It varies much with different breeds. The shepherd's dog, generally speaking, cares

little about it: he is scarcely ill a day. The usefulness of this breed seems to bestow on him an exemption from the malady. He is too valuable to be thus prematurely cut off. The cur is not often seriously affected. The terrier has it more severely, especially the white terrier. The hound comes next in the order of severity; and next, the setter. With the small spaniel it is more dangerous; more so with the pointer, especially if he has the disease early; still more with the greyhound; next with the pug; and it is most fatal of all with the Newfoundland. Should a foreign dog be affected, he almost certainly dies. The greater part of the northern dogs brought by Captain Parry did not survive a twelvemonth; and the delicate Italian greyhound has little chance.

Different in different Breeds.—Not only does it thus differ in different species of dogs, but in different breeds of the same species. I have known several gentlemen who have laboured in vain for many a year to rear particular and valuable breeds of pointers and greyhounds. The distemper would uniformly carry off five out of six. Other sportsmen laugh at the supposed danger of distemper, and declare that they seldom lose a dog. It is said that in proportion as a dog is highly bred the danger of distemper increases. I hardly know what is meant by being highly bred,—breeding in and in, I suppose,—selecting those that have the finest form and scent, and are stanch at their work; and, when a breed has been found possessing these qualities, confining ourselves to the best of that breed. If that be the meaning of the term, I can easily conceive that in proportion as he is most highly bred, he will be in danger from this disease, because, although there is not a domestic animal that may not be improved, and valuably so to a certain point, by breeding from the closest consanguinity when the stock is excellent, it is only to a certain extent and for a certain time. The effeminacy that follows is as rapid as the previous improvement. We need not go from the breed, or quite from the family, but we must now and then have alliances a little remote, or delicacy and degeneracy will follow. This has not been sufficiently attended to with regard to any domestic animal. Besides this, I can suppose the fineness of form, and intense love of the sport, which are diligently cultivated in our dogs, may be accompanied by an irritability of constitution unfriendly to a successful struggle with distemper. An hereditary predisposition to certain diseases cannot be denied, and is not sufficiently attended to. When a peculiar fatality has attended a certain breed, I have advised the owner to cross it from the kennel of one of those gentlemen who boasted of his success in the treatment of distemper. This has generally succeeded far beyond expectation.

Symptoms.—It is time, however, to proceed to the symptoms of this malady; but here I feel very great difficulty, for it is, what I have called it, a truly protean disease; and it is impossible to fix on any symptom which shall invariably characterise it. Although it may be a little too early to speak of the nature of the disease, it may enable you to follow me with greater ease and satisfaction, if I say that it is inflammation of the mucous surfaces, and more particularly of the mucous membrane lining the respiratory passages, and commencing in the Schneiderian membrane. It is what I have termed it, yet not quite discarding its well-known and long-recognised title, *nasal catarrh*.

Early Symptoms.—I would take as an early and frequent symptom, a very gradual loss of appetite, spirits, and condition. The eyes will appear weak and watery: and there will be a very slight limpid discharge from the nose. In the morning there will probably be a little indurated mucus at the inner corner of the eye. This, perhaps, will continue two or three weeks without any serious or scarcely-recognisable illness. Then a peculiar husking will be heard, altogether different from the sonorous cough of catarrh, or the wheezing of asthma. It will be an apparent attempt to get something from the fauces or throat.

Cough or Husk.—You must accustom yourselves to this, so as to be enabled in a moment to recognise the husk of distemper, and that even in the dark. Many a dog will be brought to you as distempered, with this character only of the disease, that he has cough, but a kind of cough, either asthmatic or harsh, that will never deceive the experienced practitioner. It is an apparent attempt to get something from the throat. The disease has now advanced beyond the Schneiderian membrane to the fauces.

By degrees the discharge from the eyes and nose, and particularly the former, will increase. More mucus will collect in the corners of the eyes, and the eyes will sometimes be closed in the morning. The conjunctiva, particularly that portion which covers the sclerotica, will be considerably injected; but it will not be the usual intense red of inflammation. The vessels will be large and turgid rather than numerous, and of a darkish hue.

The Eye.—Occasionally, however, the inflammation of the conjunctiva all at once is exceedingly intense, and the membrane is vividly red, and the eye impatient of light. Whichever be the case, an opacity spreads over the cornea, and this is quickly succeeded by ulceration. The first spot of ulceration is generally found precisely in

the centre of the cornea, and is perfectly circular: this will distinguish it from a scratch or other injury. The ulcer widens and deepens, and sometimes eats through the cornea, and the aqueous humour escapes. Fungous granulations spring from it, and protrude through the lids; and the animal evidently suffers extreme torture. A remarkable peculiarity attends this affection of the eye. However violent may be the inflammation, and whatever disorganisation it may produce, if we can cure the distemper, the granulations will disappear, the ulcer will heal, the opacity will clear away, and the eye will not eventually suffer in the slightest degree. One-fourth part of the mischief in other cases, and unconnected with distemper, would inevitably terminate in blindness; but permanent blindness is rarely the consequence of distemper.

Distinction between it and Rabies.—It may not be improper here to glance at the different appearance of the eye in rabies. In the early stage of rabies, there is an unnatural and often terrific brightness of the eye. The cornea in distemper is, from the first, rather clouded. In rabies there is frequent strabismus, with the axes distorted outwards. The apparent squinting of the eye in distemper is caused by the protrusion, probably unequal protrusion, of the membrana nictitans over a portion of the eye at the inner canthus, to protect it from the light. Finally, in rabies there is not the white cloudiness which I have described, and the occasional ulceration with very little cloudiness, and the ulceration confined to the cornea; but a dense green opacity comes on, speedily followed by disorganisation and ulceration of every part of the eye.

Progress of Symptoms.—The dog will now be evidently feverish, and he will shiver and creep to the fire. He will more evidently and rapidly lose flesh. The huskiness will be more frequent and troublesome, and the discharge from the nose will have greater consistence. It will be often and violently sneezed out, and will become more or less purulent. It will stick about the nostrils and plug them up, and thus afford a considerable mechanical obstruction to the breathing. The young practitioner must take care that this difficulty of breathing, which may be removed by merely sponging the nostrils, is not mistaken for the laborious respiration of pneumonia. This is of very great consequence, for the bleeding which intense inflammation would indicate, would be inevitably fatal in this stage of the disease. Therefore whenever you see the labouring flank, look at the nose, and examine whether there is not a mechanical cause for it in the accumulation of the hardened mucus.

Fits.—The progress of the disease is now uncertain. Sometimes fits come on, speedily following the intense inflammation of the eye; or the inflammation of the nasal cavity appears to be communicated, by proximity, to the membranes of the brain, or the constitution is now become debilitated and irritable, and therefore disposed to take on this morbid action. One fit is a serious thing. If it is followed by a second, within a day or two, the chances of cure are diminished; and if they rapidly succeed each other, the dog is, ninety-nine times out of a hundred, lost.

These fits seldom appear without warning; and if their approach is carefully watched, they may possibly be prevented. However indisposed to eat the dog may have previously been, the appetite returns when the fits are at hand, and the animal becomes absolutely voracious. Nature seems to be providing for the strange expenditure of animal power which epilepsy will soon occasion. The mucus almost entirely disappears from the eyes, and the discharge from the nose usually abates.

Caution as to Sudden Changes.—Do not be deceived here. Sudden changes for the better are deceitful in almost every disease—they are peculiarly so here. The person who knows not the real character of the malady, will often form a flattering but false prognostic. You will hesitate and await the issue, or, rather, you will be assured that, in almost every case of this sudden apparent amendment, the termination will be fatal. For an hour or more before the fit comes on, there will be a champing of the lower jaw, frothing at the mouth, and discharge of saliva. The champing of the jaw will invariably precede every succeeding fit, but only for a short time. There will also be twitchings of some part of the frame, and usually of the mouth, cheek, or eyelid. It is of some consequence to attend to this, as enabling us to distinguish between the fits of distemper and those of teething, worms, or unusual excitement. The latter come on suddenly. The dog is apparently well, and racing about full of spirits, and without a moment's warning he falls into violent convulsions.

Further Distinction between it and Rabies.—We may here, likewise, be enabled to distinguish between rabies and distemper. When a person, unacquainted with dogs, sees one of these animals struggling in a fit, or running along unconscious of every surrounding object, or snapping at everything in his way, whether it be a human being or a stone, he raises the cry of "mad dog," and the poor brute is immediately sacrificed. The very existence of a fit is a proof positive that the dog is not mad. No epilepsy accompanies rabies in any stage

of that disease. The dog even in a distemper fit will often be exceedingly violent, and strangely disposed to do mischief; he will fly at the person who meddles with him even in the slightest degree. It is not pleasant to be bitten, but be not alarmed. There is no madness. They are altogether different diseases. They are diseases of different systems. They can never run into each other. While there are no fits in rabies, fits can never produce rabies.

Affection of the Respiratory Passages.—The inflammation of the membrane of the nose and fauces, determined by accident, or by asmospheric influence, or by the state of the constitution, is sometimes propagated along the mucous membrane of the wind-pipe, and the dog exhibits unequivocal proofs of chest affection, or decided pneumania.

The Bowels.—At other times the bowels become affected, and a violent purging comes on. The fæces vary from white, with a slight tinge of grey, to a dark-slate or olive colour. By degrees mucus begins to mingle with the fæcal discharge, and then streaks of blood: the fæcal matter lessens, and the whole seems to consist of mingled mucus and blood, and, from first to last, the stools are insufferably offensive. When the mingled blood and mucus appear, so much inflammation exists in the intestinal canal that the case is almost hopeless.

The Nasal Discharge.—The discharge from the nose is now decidedly purulent. While it is white and without smell, and the dog is not too much emaciated, the termination may be favourable; but when it becomes of a darker colour and mingled with blood, and stinking, the æthmoid or turbinated bones are becoming carious, and death supervenes. This will particularly be the case if the mouth and lips swell, and ulcers begin to appear on them, and the gums are ulcerated, and a sanious and highly offensive discharge proceeds from the mouth. A singular, half-fœtid, deathy smell, arising from the dog generally, is the almost invariable precursor of death.

Some other characters of the disease and its treatment will be considered in the next lecture.

Relief of Cramps in the Cholera.—In a paroxysm (in a case at Sunderland) an attempt was made to relieve or extinguish the spasms in the calves of the legs, by the application of tight ligatures (twisted handkerchiefs) to those parts, and with such effect, that the patient on the following day mentioned the circumstance, and spoke of it as "a fine thing for the cramp."—*Chol. Gaz.*

LONDON HOSPITAL.

CLINICAL LECTURE

DELIVERED BY

DR. BILLING,

PHYSICIAN TO THE HOSPITAL,

December 10, 1831.

FORMER CASES CONTINUED.

According to custom, Gentlemen, I shall dispose of the arrears of cases formerly discussed, before proceeding to any fresh ones.

Ague.—C. D. (p. 430) was reported, on 29th November, much better, and free from cough, which has never returned; but the respiratory murmur in the right side has not quite regained its natural force, and perhaps never may; this is of little consequence, as there is no rhonchus, pain, or other sign of inflammation, and his pulse fell to 84, full, soft, and regular. As soon as the cough ceased to be troublesome I left off the Dover's powder, and continued the squill pill, rather to promote the natural secretion from the bronchia than as an expectorant. His appetite improved much, but the bowels were so sluggish from deficiency of bile, as evinced by the pale colour of the motions, that he was obliged to take salts and senna, after each calomel and rhubarb powder, and in a few days the secretion of bile was re-established. He had scarcely got rid of his old complaints when a new one made its appearance. He had been reported to have had uneasiness about the right groin, at a former period, but no appearance of redness or swelling; on the 5th inst. he, however, became hot and restless, complaining of pain in the right groin. Upon examination a tumour was discovered, not in the groin, but in the parietes of the abdomen, just above Poupart's ligament; the tumour was larger than an egg, flat on the outer side, very solid, tender to the touch, but freely moveable, to all appearance enlargement of a lymphatic gland, though not so often occurring in that situation as in the groin. I ordered eight leeches (followed by a bread poultice) every day. The tumour now is free from tenderness, even on pressure, is more moveable under the integuments, and diminished in size. He feels well, but when asked about his head, says there is some sense of noise in the ears, and he has occasional headach; his nervous system is in a morbidly irritable state, and though he has unequivocally gained some flesh, he is weak, and thin, and of a complexion which, in a female, would be called chlorotic. He is in

that state that, if he could afford it, I should order him to the sea-side, and to take exercise on horseback, or in an open carriage; as it is, I shall give him ferri carbonas, 3j ter die, and some fermented liquor with his diet; he goes into the warm-bath occasionally, and if he gets on well, as I expect he will now, I shall not allude to his case again. I think he will require tonic medicines, such as quinine, or iron, for a long time, but these he may have as an out-patient.

Pleuro-peripneumony.—G. H. (p. 430) continued to be sensible of pain on percussion on the side, and upon full inspiration, and the respiratory murmur was duller than natural, with the pulse at 100, which induced me, in addition to the other treatment, to give him gr. j calomel every night, as mercury has a powerful tonic effect upon the relaxed vessels of inflamed parts, and as the mere unloading them by leeches did not seem sufficient. In two or three days, however, the respiratory murmur became quite natural by repeating the leeches daily, before the calomel had time to produce any effect on the mouth, and at the same time the pain on inspiration disappeared. I then soon left off the calomel, considering that if continued so as to affect his mouth unnecessarily, it would rather weaken and retard him than otherwise. After this, even when he felt well, as the side was tender on percussion, the leeches were repeated occasionally, and a blister seems to have removed any remaining tenderness from the pleura; he feels and looks strong and healthy, and will go home next week.

Fever.—J. G. is perfectly convalescent, and will leave the hospital in a few days.

With these two last patients you have seen the advantage of Laennec's mode of investigating the state of the chest, for without resorting to auscultation and percussion, we might have relaxed in our treatment, and allowed the patients to resume their employments too soon, which would have led perhaps to relapse, or such a slow convalescence as would be incompatible with their earning their bread.

Sciatica.—J. F. (p. 431) says he feels well enough to return home and resume his employment next week.

Sciatica.—J. M., æt. 40, a sailor, is another case of sciatica, treated in the same manner as the last, with moxa and ferri carbonas, but as the case is much slighter, the moxa is applied only so as to produce erythema, instead of vesication or eschar, and as he experienced relief from the very first applications, I expect that he will soon be fit to return home.

Leucorrhœa.—A. M. (p. 430) has lost her cough, and is, as you have seen, evidently gaining flesh; I have left off the leeches, and allowed her some porter, and as she is now much better of the leucorrhœa, I calculate that she will as she gets stronger lose the globus hystericus, and other nervous sensations; I shall send her home next week to her husband and family.

Hysterical Epilepsy.—S. S. (p. 509) continues better, she has less pain in the limbs, and the threatenings of a fit which she felt have passed away, but I was obliged to leave off the ol. terebinth. on account of ardor urinæ, and I have commenced giving her ferri carbonas, 3i ter die, as a tonic, in order to keep off the fits.

Chlorosis.—R. W. (p. 503) the chlorotic patient, I shall not longer detain you with, than to mention the general plan of treatment which I mean to adopt, and which you can observe without my referring again to the case, unless something more interesting occurs than I anticipate; I despair of making her well, from the natural and acquired debility of her constitution; her health may, however, be improved, by inducing her to take more food, and to do so we must first try to excite the stomach by a moderate use of wine, or other fermented liquor, and, along with this endeavour, to give tone to the primæ viæ by tonics, so as to make the bowels act without cathartics; the mixture had no good effect, and I changed it for ferri carb. 3i ter die, which has produced rather more regularity of bowels, assisted by the red wine; the addition of ℈i subcarbonate of soda, or 3ss or 3i carbonate of soda or potassa, will sometimes greatly assist the iron, especially when there is much acidity in the stomach, and the iron appears to confine instead of promoting the action of the bowels; when you cannot actually dispense with opening medicine there is none better than decoct. aloes comp. in doses of from 3ss to 3iss; this itself is a bitter tonic as well as laxative, and you will find that aloes in the liquid form do not irritate the rectum, or at least not nearly so much as when given in pills.

ERYSIPELAS PHLYCTÆNOIDES.—CARBUNCLE.

W. A., æt. 24 (extra case), labourer. Dec. 9. Complains of burning pain in his neck, face, and head, vertigo, and pain in his limbs: has been ill ten days; had rigors for two or three days, followed by a patch, an inch in diameter, of phlyctænoid vesications on the side of the neck; the vesicles have fallen in, and the patch, of a livid colour with the surrounding redness, resembles the plate in Willan of the carbuncle of plague; there is a firm tumour four inches in diameter, in the cellular tissue below it; the redness has extended round the neck and over the left side of the face; the red-

ness disappears upon pressure; pulse 90, rather hard, not strong; tongue furred; appetite bad; bowels not confined until to-day; eyes suffused; feels very chilly though constantly perspiring; he is thin and has suffered privations lately, has had no medicine.

Feels that the pain is extending down the side and up to the ear; head drawn towards left shoulder.

Pulv. emet. ipecacuan. ℈i; *ant. tart.* g. i, *statim. Capt. sulphatis quininæ*, g. iij; *acidi sulph. dil.*, ℥iij; *ex. inf. rosæ co.*, ℥iss, *ter die. Hydrarg. submur.*, g. v. *omni nocte.*

This is an interesting case, both on account of its severity, and from its bearing upon points of nosology. The risk is considerable from such a severe inflammation close to the base of the brain, and to the fauces, larynx, and the numerous nerves in the neck adjoining the spinal chord. This case will I think satisfy you of the connexion, if not identity, of carbuncle with erysipelas, which I described in my lecture on that subject in the practice of medicine. A short time ago I had an opportunity of showing you a case of phlyctænoid erysipelas in the same situation, on one of the out-patients who got well in a few days by applying a poultice and taking sulph. quininæ, g. iij, ter die, and a little Epsom salts; but that man was strong, and not reduced by want, nor was his constitution injured by other previous circumstances of disease, over fatigue, or dissipation; you see by those two cases, how little the mere name or quantum of local injury in the first instance can guide you in prognosis or treatment; after having seen the other man get well so easily, had you seen this patient in the same stage—that is, when the vesicles had just come to a height—you might have said—this is a slight patch of phlyctænoid erysipelas, not of much consequence, it not being the eighth part of the extent of the last;—yet you see that the deficiency of constitutional power made it degenerate into carbuncle. I should mention that, as it happened, this patient had been seen previous to the first report in the journal, at which time the cluster of vesicles had not fallen in, nor turned livid. You have, in the report of this case, an account of the rigors and fever preceding the eruption of vesicles, which confirms the propriety of placing erysipelas amongst the exanthemata; this is the kind of erysipelas which, when it occurs on the body round the waist, is called shingles or zoster; even in the erysipelas which comes on upon wounds, if you investigate closely in the surgical wards, you will find that the patient has had rigors and fever a day or two before you observed the erysipelatous spreading of the inflammation; and sometimes the eryspelas may be prevented, by taking warning from the febrile symptoms, and resorting to the proper remedies. We have at present a great many cases of erysipelas in the hospital, and showing a degree of severity, by suppuration taking place in the cellular substance below, instead of terminating by mere desquamation of, the cuticle, as is common. You will observe in cases where carbuncle burrows, as it is called, that before each additional death of cellular substance, there are vesicles formed on the surface over it, and that each vesication is preceded by rigor. The most efficacious remedy we have against erysipelas, carbuncle, or boils, which are but miniature carbuncles, is bark or sulphate of quinine, but this will do little good if other necessary means be neglected; in some instances of boils, or slight erysipelas, quinine alone may be sufficient, as it occasionally acts as an opening medicine, as well as being a tonic; but in such cases as the present, we have a great deal more to attend to; we must improve the secretions and excretions, and deplete the local inflammation; the eruptive fever existed first, and now we have the secondary fever of irritation from an extensive painful sore. It is very true, this patient's constitution is weak from privations, and carbuncle is a proof of broken constitution, and he wants tonics and support; but if we were to cram him with bark and wine, whilst so much fever exists, without unloading the bowels, or giving medicine to reduce the fever, or unloading the vessels of the inflamed part, we should bring the bark into disgrace; as it is, I hope to show the advantage of tonics with depletion; and also, that even in debilitated habits, local depletion is not merely safe but necessary; and here you observe the depletion is of a guarded nature; not venesection; but all the blood taken is to be taken by leeches from the inflamed part; the pulse was full and strong, but the pulse may be reduced by an emetic without expending the patient's strength; his bowels were but slightly confined, and therefore the calomel alone, without any other purgative, appeared to be quite sufficient, and that, by increasing the secretion of bile, would improve the actions of the primæ viæ; besides that, it may turn out to be necessary to produce a mercurial effect on the capillaries, if the inflammation does not yield otherwise.

There is occasionally a question raised as to the propriety of applying leeches in erysipelas, on account of the appearance of erysipelas some time after their application, but this happens on account of what is the regular routine of the disease; there is feverishness, and pain in that part which is

to become erysipelatous, before the redness appears, and when that part is the head, more or less oppression of the sensorium; under these circumstances, what is more common than to apply leeches, and, perhaps, in a few hours after, the redness appears, which is attributed to the leech-bites; still I do not deny that when there is an erysipelatous epidemic disposition, leech-bites, as any other wounds of the skin, may be the exciting cause of erysipelatous inflammation.

Not long since I was called to a case of genuine phlyctænoid erysipelas on the arm, attributed to a camphor liniment which had been rubbed on, supposing the pain which preceded the eruption to be rheumatic, until I explained the nature of the disease; in that case, had leeches been applied instead of the liniment, they would have been accused. The report of our patient to-day is favourable.

Dec. 10. Feels much better, but his head is rather light and giddy; the emetic operated freely; bowels opened twice; the redness of face has quite disappeared, and that of the neck much diminished; tongue rather white; appetite better; some thirst; skin soft; pulse 72; still rather hard.

Hirud. vj, *collo.*

ERYSIPELAS OF THE KNEE AND LEG.

There is a severe case of this in a young woman. S. J., ætat. 19, servant.

Dec. 8. Complains of swimming in the head, nausea, pain in the left side; she has had dry cough three weeks, rhonchus sibilans. On the 3d instant observed pain and bright redness of the right knee, which has continued to swell to the present time; the swelling extends up to the middle of the thigh and down to the ancle, the redness (which disappears on pressure) not quite so far; there is fluctuation on the outer side of the patella; gets no sleep; skin warm and soft, perspiring; pulse 110, full; tongue covered with yellowish white fur, and rather dry; thirst; no appetite; urina rubra; bowels open, from jalap and salts taken at home this morning.

Hirud. xvj, *genu et postea cataplasma; Capt. sulph. quininæ*, g. iij; *Ex. inf. rosæ co. ter die.*

The treatment here is the same, although I ordered her neither emetic nor purgative, as she was under the influence of the jalap and salts at her admission, which had produced nausea and purging at the same time. Yesterday she felt better, and ten more leeches were applied to the knee, and a cold lotion instead of the poultice, which she found too heavy. To-day she still improves, has less pain, and her cough is much better, and she expectorates easily; she does not require any opening medicine, as the bowels are freely open with the quinine only.

E. T., an old woman, with erysipelas of the leg, brought on by a blow upon the site of an old inflammation; her pulse is 84, soft, and tongue clean. She requires no depletion, but merely the lotio liq. calcis c. ap.; I gave her the quinine, and as she has bad appetite, and to ensure regularity of bowels, pil. aloes c. myrrha; pil. hydrarg.; a a gr. v, alt. noct. She was admitted on the 8th, and to-day is free from pain, and the erysipelatous inflammation has subsided.

RHEUMATISM.

We have three cases of rheumatism on the journal, of the subacute kind, that is, not amounting to acute rheumatism or rheumatic fever, as it is called, as not confining the patients to bed, nor affecting the limbs generally, but occupying two or more joints with heat, pain, tenderness on pressure, redness, and swelling, such as you see in rheumatic fever—the *quality* of the inflammation being the same, but the *quantity* not being sufficient to produce the pyrexia, furred tongue, and continual sweating, which mark rheumatic fever.

Subacute Rheumatism.—Nov. 17, H. M., ætat. 15. Complains of pain in left wrist and right ancle, which he has had six days, after getting wet; the parts are swollen, red, tender, and hotter than natural; pulse rather quicker than natural; tongue white, slightly furred; bowels rather confined; sleeps well.

Capt. pulv. cal. c. jal. co. gr. xv, *alt. auroris; Aceti colchici* ʒj, *ex aquæ* ʒiss *ter die.* No animal food.

This case, as drawn up by our clinical clerk, affords a specimen of a minor rheumatic fever; had the pains grown more numerous and severe, they would have confined him to bed, made him sweat, his pulse throb, and have prevented his sleeping day or night; as the case stood, he did not require any anodyne to procure rest; I gave him the colchicum, which is tolerably specific against rheumatism, and at the same time the powders, not merely to keep his bowels open, which they required in this instance, but because the operation of a purgative of any kind assists the colchicum as an antiphlogistic, when the rheumatism is acute or subacute. In many cases a little Epsom salts daily, or with each dose of the colchicum, answers perfectly well. I had no occasion to change the plan of treatment. On the 24th he was free from pain, the swelling nearly gone; on the 29th convalescent.

Rheumatism.—Nov. 27. W. L., ætat. 20, states that two months ago, after getting wet, he was attacked with pains in his limbs, and cough, which last troubles him on going to bed; he has pain in the right side of the chest, increased on drawing his breath and raising his arm; and his head is drawn on one side; the muscles in those parts tender on pressure; pulse quick and hard; tongue furred; bowels open from medicine; sleeps ill from pain.

Capt. pulv. emeticum statim; Aceti colchici, ʒi; *Sulphatis quininæ,* gr. iij; *Acidi sulph. dil.,* ℥ iij; *Ex. aquæ,* ʒiss *ter die; Pulv. Doveri,* gr. x, *omni nocte.* No animal food.

This case was more severe, and required some difference of treatment in addition to the colchicum. The cough, quick hard pulse, and pain in the right side increased by inspiration, might have excited suspicion of pleurisy, but the increase of pain on motion, or pressure of the pectoral muscles, showed it to be rheumatic, which has got the name of pleurodyna rheumatica, to distinguish it from pleurisy. As to treatment:—He was very much reduced in strength, on which account, in addition to the colchicum, I gave him the quinine, which has itself considerable efficacy in removing rheumatic pains; he did not require purgatives, as he was under the influence of some he had previously taken; as his pulse was hard and his strength reduced, I resorted to an emetic, as a substitute for V.S. The Dover's powders I gave him to procure rest, as his pains were aggravated by want of sleep, and his strength thereby further reduced: the cough disturbed him, and was likely to be allayed by the powder, but required no further attention, being merely a slight catarrhal affection. On the 4th he was better; bowels quite free; stiffness gone from the neck. On the 8th he had still some flying pains, and I ordered him two drachms of *tincturæ guaici, ex inf. limonis, ter die,* and the warm bath; and on the 15th he is reported well, having recovered his flesh and healthy appearance.

Metastasis to the Heart.—In the next case of rheumatism, there was metastasis to the heart. E. T., ætat. 27. October 27th. States that about a month ago she had pains in her elbows and knees, which after some time left them and flew to her heart; she has now pain in the region of the heart, with palpitation, and also at the scrobiculus cordis, extending right and left into the hypochondria, and causing her sometimes to cry out; the pain is increased by full inspiration and pressure; she is chilly, feels nausea, and vomits ingesta; pulse 90, soft; no appetite; bowels confined two days; catamenia abundant.

This is an example of the kind of cases which produce these inflammations of the pericardium, with false membrane of coagulated lymph, of which we have so many pathological specimens, and which terminate in enlargement of the heart, and dropsy, if not relieved in the early stage. In this case there was evidence of inflammation producing feverishness. As she was already rather reduced in strength, I ordered her an emetic instead of bleeding, and to be put into the warm-bath; I ordered magnesia sulph, ʒi; antim. tart., gr. ¼; ex aquæ, ʒiss, ter die; to keep the bowels open and soften the skin; and in the evening she had a sinapism applied to the præcordia, which relieved the pain, and the following day the nauseating medicines having removed the nausea dependent upon fever, she could retain food on her stomach.

The saline antimonial medicine kept the bowels moderately open, and in a week she was quite well.

ST. THOMAS'S HOSPITAL.

CLINICAL LECTURE

BY

JOHN ELLIOTSON, M.D., F.R.S.

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE

IN THE UNIVERSITY OF LONDON,

Delivered January 9th, 1832.

DISEASES OF THE HEART.

I PURPOSE, Gentlemen, this morning, to draw your attention to some affections of the heart, and the treatment of diseases of the heart in general.

General Remarks.—Nothing is more common than for the heart to beat very violently, so as to distress the patient exceedingly, without that organ labouring under organic disease, or any dangerous affection. This circumstance continually arises from uneasiness of the mind, from disorders of the stomach, and, very frequently, in females, from a derangement in the menstruation. It is very common for the heart to be affected in this way, not dangerously at all, but through some dangerous disease of another organ, as, for instance, the head. It is very common in affections of the head, whether functional or organic, for the heart to palpitate violently from time to time, and to be irregular in its action. You may have an affection of the heart without any danger to that organ itself, from affections

of other parts, and those affections may be either dangerous or not. But in the far greater number of cases of palpitation there is no danger whatever. Persons labouring under disease of the head are very liable to a violently irregular action of the heart from time to time, and the best mode of distinguishing whether there is structural disease or not of the latter organ, is to ascertain by the hand and also by the ear, whether the violent action of the heart is universal or not. If it be found on both sides of the heart, not at one part more than another, you might be led to suppose that it was merely a functional disturbance of the heart. That, however, is no *proof*; but if you find, at the same time, that on striking over the region of the heart the dull sound is not of greater extent than natural, you may presume there is no dilatation of the heart, nor effusion into the pericardium. If at the same time that you observe the action to be violent, and yet the sound on percussion not to be more extensive than usual in addition to this circumstance, you find the sound of the heart perfectly natural,—that there is no bellows sound, no rasping sound, no sawing sound, merely, perhaps, a rather louder sound than usual, nothing more than that,—then you have every reason to suppose that there is no organic disease of the heart. If you find effusion into the extremities accompanying this palpitation, that is no proof of organic disease, for in an inflammatory state of the heart and pericardium you continually have effusion into the lower extremities.

The diagnosis is founded chiefly upon the circumstance that the action, although so violent, so sharp, is equal in every part of the heart; that the dull sound on percussion is not more extensive than usual; that there is no preternatural sound whatever; that the sound is not deficient when the heart acts (because if it be much thickened the sound is much diminished); that the sound is not diminished, and at the same time it is not remarkably increased. Under these circumstances you may conclude that there is no organic affection. Still, however, you are never to assert that there is not an organic affection, because there are some diseases of that organ which do not give us audible symptoms, which do not alter its sound when it acts. When, for example, the coronary arteries are ossified, there is no difference in the sound, the action of the heart is not increased, neither is it more extensive than usual, and therefore you are never justified in asserting, when there is affection of the heart, that it is not organic. You may, however, state your conviction upon that point, and tell the friends that you do not apprehend the least danger.

However, even if you have a preternatural sound in the heart, that is no proof of organic affection. A bellows sound is no proof of any structural disease; it will arise, unquestionably, from structural affection at the opening either of an auricle or ventricle; but it will also arise without any structural affection. When it does arise from structural affection it is to be attributed to an impediment offered to the blood in its progress from the heart, or to some defect in the valves, by which a certain portion only regurgitates, in which case there is still impediment. If the blood were to rush back entirely, there would be no bellows sound; but if a valve be only imperfect, so that a certain portion merely returns, then of course you would have the bellows sound.

Now this bellows sound, it is quite ascertained, will arise without any structural affection. I know, myself, that it will arise merely from an altered position of the heart. I have frequently observed it when persons were lying down, and found it go away the very moment they sat up. Nothing, I imagine, could produce that circumstance in these particular cases but a change of position. I once had a female patient labouring under ascites, in whom the heart gave this bellows sound. As soon as she was tapped of course the diaphragm descended lower, the heart changed its position, and this bellows sound instantly ceased. The water gradually accumulated again, and the bellows sound as gradually returned. In some structural diseases of the heart, where the structure of the openings has been quite natural, I have frequently observed this bellows sound. Where the heart has been much dilated, or much thickened, I have seen it, and I have also noticed it to be inconstant. I have no doubt that it does arise in many cases of organic disease, where the openings are perfectly natural, and therefore merely from an altered position of the heart; for when the heart is much altered in its dimensions, its position is more or less faulty. You will sometimes see it lying almost across the chest. In many cases of hypertrophy there is more or less impediment arising from enlargement of the substance of the heart, though the valves themselves are perfectly sound. It is the opinion of many that spasm will directly occasion this bellows sound, but I do not believe it. I think, however, that spasm may occasion it by narrowing the passage through which the blood escapes from the heart. It is very possible that the muscular fibres towards the valves become concerned, and then more or less bellows sound is produced. It is certain, however, that sometimes in an inflammatory state of the heart, a bellows sound is heard, and

as you lessen the inflammation by applying leeches, administering purgatives, and adopting other means, the sound will go off. It is not an invariable rule for there to be bellows sound when there is inflammation of the heart, but it does sometimes happen. It may be said that we have no proof of the bleeding having operated by lessening the irritation, and thus lessening the disposition to spasm, because if we diminish the quantity of blood which has to go through a certain space, there will be less difficulty in its exit.

But we observe in the case of the urethra, that when that passage is more or less inflamed, it has a tendency to spasm. This is a circumstance which continually happens in the case of inflammation of the urethra, so that a person will not be able to discharge his urine, but on taking away blood the spasm immediately goes off. The bellows sound may arise from a spasmodic state, and this again from an inflammatory condition. In hysteria it is supposed that the bellows sound which is occasionally heard, arises from spasm of the heart. For it to arise from disease of the valves, it ought to be constantly heard more or less under all circumstances, and even then I would not believe there was structural disease, unless, in addition to the bellows sound, I found the action of the heart extending over a large space, that there was more dead sound than natural on striking over the region of the heart, or I found the sound of the heart much diminished or increased at the time of its action, showing that it was much thickened or much dilated. When the heart is thickened the sound is lessened, and when it is dilated it is much increased. If you find any of these circumstances, and see dropsy, then, of course, you will conclude that there is organic disease of the heart.

CASE I.

Now to take one case among the women, where there was palpitation without any sign of organic disease.

Symptoms.—The woman had been ill six months, and stated that when she was menstruating six months previously, some cold water was thrown on her feet. The menses immediately stopped, and had not returned at any subsequent period. This was a decided case of suppression of the menses,—not from sympathy with any other organ, or any constitutional disturbance, but from the uterus being suddenly affected by a cold application to the feet. The consequence of this was, pain of the loins and pain down the thighs. I suppose there was considerable congestion produced in the uterus, and probably in the various branches of the internal iliac, and therefore there would be more or less pain of the loins. Besides this, however, she had headach, which I suppose arose from the same circumstance. Her feet were wet, and then congestion of the head took place, and such was the degree of congestion, that she had had fits for the last three months. She had a fit of epilepsy or hysteria regularly at the time that she should have menstruated. The head then suffered so much from irritation that she had a fit. Besides this she had palpitation of the heart, and that organ was frequently in violent action. But on listening to it I found that it was not beating to a greater extent than usual, that there was no dull sound to a great extent on striking over its region, that there was no preternatural sound when it acted, and that its augmented action was universal. She had also giddiness.

Treatment.—Now I considered that the treatment here would have been in vain, unless I endeavoured to diminish the load of blood in the pelvis. I therefore had her cupped to twelve ounces upon the loins, and ordered the hip-bath for the purpose of relaxing these parts night and morning, and I gave as a stimulant to the womb one of the best remedies which can be resorted to in a case of such affection of that organ, namely, oil of turpentine, of which she took a drachm twice a day. She was admitted on the 22nd of December, and on the 30th (the oil had been omitted on account of its irritating the urinary organs), as her head was still bad, she was cupped on the occiput. Though she had not menstruated for six months, and the catamenia did not then appear, but she felt in all respects a good deal better. It is very common for treatment of this description to take away all the symptoms. She had no longer headach, no longer palpitation, no longer any pain of the loins, and was, in all respects, pretty well; and as I did not wish to wait until another week came round before I presented her, and there was no occasion for keeping her here any longer, I sent her away, but supplied her with oil of turpentine, of which she was to take two drachms twice a day till the menses appeared.

Private patients, when they have any palpitation, immediately imagine that they labour under disease of the heart, and you find great trouble in convincing them to the contrary. In this case there was no reason to suppose anything of the kind. There was no occasion to apply any remedy to the heart itself, the affection of that organ being altogether sympathetic.

CASE II.

Symptoms.—You will observe another condition of the heart in a boy who is now here. There is decided inflammation. The

boy's name is Wince, his age 15, and he was admitted on the 8th of December, having been ill five weeks. His symptoms were—violent action of the heart, and much tenderness on touching the region of the heart, and on pressure over the pericardium. You find continually, in an inflammatory state of the heart, that if you press over it, or if you press beneath the cartilages of the ribs against the diaphragm, you produce great pain. Besides, therefore, the violent action in this case, there was the tenderness—pointing out clearly inflammation. There was also a very great impulse of the heart, and a bellows sound. There was no reason to suppose in this instance that the bellows sound arose from organic affection of the heart, for the patient had only been ill five weeks, and, therefore, it most probably arose from an inflammatory state, and from a spasmodic state, in all probability at that part of the left ventricle which is near the valves, so that there was only a small passage through which the blood had to pass.

The boy had experienced rheumatism six months ago. The most frequent occasion of affections of the heart is acute rheumatism. When acute rheumatism occurs in persons from six or seven years of age up to thirty, but particularly so when they are about fifteen, pericarditis frequently supervenes, and it generally affects at last the substance of the heart. The substance of the heart falls into a state of chronic inflammation. It becomes hypertrophied. I feared there was hypertrophy in this case, and for this reason—there was a violent action rather particularly in the situation of the left ventricle.

Treatment.—The treatment of this case required to be directed to the part itself. Before I saw the patient he was bled and purged, and when I saw him the next day I had him cupped over the heart to ten ounces, and deeming it requisite to make his mouth sore, I gave him three grains of calomel twice a day. Leeches were applied over the region of the heart from time to time. He was kept in bed, and he is now considerably better.

This is the next point to be attended to in diseases of the heart. When you have ascertained that there is an affection of the heart itself, you must then ascertain whether it is inflammatory or not. In this case, by repeated leeching, and by the exhibition of calomel, I have no doubt but that the boy will get over the inflammatory state of the heart, but it is possible that there may be such a disposition left to disease that the heart may gradually become hypertrophied, for that is by far the more frequent result of all inflammatory affections of the heart. Still, however, if he lives on low diet, and is kept still, chiefly in bed, and leeches be applied from time to time, it is possible that, if he do not entirely recover, yet that he may become considerably better—better than a great number of persons labouring under affections of this description, but who have been neglected.

CASE III.

But suppose you can find no inflammatory state of the heart. It is possible that there may be an opposite state,—that of exhaustion; and anti-inflammatory treatment is extremely pernicious, extremely destructive, in cases of that description.

Symptoms.—Now here was a woman admitted on the 9th December, 24 years of age, who had irregular action of the heart. It acted quickly and irregularly. She had also a sharp pain in the region of the heart, and below it. There was some tenderness; but more than that, there was an occasional sharp pain. This case appeared to have arisen from amenorrhœa, for she had had amenorrhœa for nine months; but I am not sure that it arose from that circumstance; but both affections might be consequent upon the same state of the system. She was extremely pale, bloodless; in just such a state as you observe patients who are labouring under anæmia, where their faces are sometimes like white wax, or wax which has become slightly yellow.

Treatment.—But besides palpitation and irregular action of the heart, there was a sharp pain in it, and some swimming of the head. When I first saw her on account of this sharp pain, I thought it right to treat her on the antiphlogistic plan, and she was a little relieved by it, but not much. I am always so anxious to get rid of any inflammation that may be present, that I treated her antiphlogistically. As I have just said, she was not much better for this, and I soon satisfied myself that it was a case in which antiphlogistic measures ought not to be persevered in, notwithstanding the pain in the heart, but that remedies of an opposite description were proper. Whenever I have seen persons with disease of the heart, particularly with dilatation, looking extremely pale and bloodless, I have almost invariably found the free exhibition of iron do great good. It restores the colour, it restores the strength, and lessens the symptoms about the heart. I should at once have commenced giving this woman iron, had it not been for the violent pain, but on account of this and the palpitation, I feared that the heart might be in too inflammatory a state for me to be justified in giving iron in the room of bleeding. The iron might not only have failed, but might perhaps have increased the inflammatory symptoms.

After a little time, however, I determined on the exhibition of the remedy, and I gave her what is an excellent preparation of it, when you wish to act upon the bowels and kidneys, so as to have a particular secretion from those parts, which I wished to obtain in this case, because I saw that she was œdematous. It is the tartrate of iron, which I gave in this case with great success. The carbonate, however, and the sulphate, are both excellent. By means of the tartrate you have the benefit of a diuretic and a purgative, and likewise the benefit of the iron itself. This woman took two drachms of the tartrate of iron three times a day. It is frequently taken in treacle, but now and then, as it is an aperient, the two act too violently. Where you give the subcarbonate, it is well to give it in treacle, because the treacle counteracts the astringency of the carbonate. She took, as I have just said, two drachms three times a day, and the effect was very rapid indeed. In a few days the action of the heart became perfectly regular, and her health in general was greatly improved. She was sufficiently strong to get out of bed, and even to walk about the ward. It seemed to stimulate her, and improve her blood, for her face became florid. Its effect was very decided indeed, and she felt herself so much better, that she began to give herself airs, and as her medicine was not very nice, she refused to take it, and away she went.

General Remarks on the Diagnosis and Treatment.—It is important to observe, that where there are disease and debility of the body, and especially of the heart, that though there be a sharp pain it will only be increased by evacuating remedies, just as is the case where there is a great loss of blood. The pulse may indicate bleeding, but it may not be justified, for you find no local inflammation, but the patient is in a state of anæmia.

Then, in other affections of the heart, when there is decided organic disease, where there is not simply inflammation on the one hand, nor a bloodless state of the body on the other, all you can do is to enjoin rest, and take off congestion by general bleeding. Your object is not to attempt to remove inflammation, but to lessen congestion, to cause the heart to have less to do; and you must also keep the bowels in a free and open state, in order to assist in removing the congestion, and empty all the vessels that form the porta venæ. You must likewise give diuretics to excite the free discharge of urine, so that effusion into the substance of the lungs, into the pleura and into the pericardium, may be diminished as much as possible; that is all you can generally do in organic disease of the heart,—to diminish the load of blood, excite absorption, and at the same time enjoin rest, and an abstinence from all stimulants, so that the heart may not be stirred up to an inordinate action, but may remain as still as possible, and have as little to do in the way of circulation as possible.

These are the chief points which strike me in attending to disease of the heart,—first to ascertain if there be any inflammatory state, and *that* you must endeavour to remove by antiphlogistic measures; secondly, to ascertain whether there be debility of the body and an impoverished state of the blood, and *that* you must endeavour to remove by iron; and, thirdly, you must sometimes only take off the load of blood, and keep the heart as free from excitement as possible.

CASE IV.

Symptoms.—Respecting diseases of the heart, I may mention that you will observe in all those cases where the heart acts violently, or there is organic disease, that the patient lies best on the right side. That is a common remark. But a man was admitted on the 15th December with a strong impulse of the heart, and a strong pulse. When there are signs of disease of the heart, the state of its action and of the pulse are the two things first ascertained, and when I had ascertained these points, I then asked this patient on which side he lay best, and he told me that he lay much better on the left than on the right. That circumstance excited in me a suspicion that the disease was not in the heart but in the aorta, either in the arch or the ascending aorta, or that if there were disease of the heart, it was infinitely inferior in this case to disease of the aorta. He had been ill, he said, five months, that he had had a violent strain seven years ago, and much hard straining since, but that he could not lie upon the right side so well as upon the left. There was dyspnœa and a strong pulsation at the *right* upper part of the chest and neck.

I now examined him by the ear, and found a strong impulse of the left ventricle, with a little bellows sound. I was quite sure that as there was strong impulse of the left ventricle, he would have lain better on his right side than on his left, had it not been for the existence of some other circumstance than the disease of the heart. I passed the stethoscope upon the sternum and I found at its upper part both on the right and the left side a loud bellows sound; and on placing my finger above the sternum I found an impulse and a pulsating body. Either the innominata or the superior part of the arch was greatly distended, and the right carotid was also throbbing very violently. Indeed the arteries all over the

body were in more than natural action. There was also, besides this impulse, a bellows sound, sometimes double and sometimes single; sometimes only when the left ventricle contracted, at the moment of the pulse; and sometimes afterwards,—after the pulse. This is very common in aneurisms,—aneurisms when they exist frequently have a bellows sound, but not necessarily so. I have no doubt that in this case there is more or less hypertrophy of the left ventricle of the heart, and I have no doubt that the arch of the aorta is in a state of aneurism or dilatation, and in all probability the arteria innominata is in a similar condition. It may not in some cases be an easy thing to distinguish between the two, but when you find the pulsation sound, very loud at the upper part of the sternum, and especially if there be a bellows sound then you may conceive that it is the arch which is affected. In this case it may be the arch only which is diseased, but the tumour at the seat of the innominata being so evident, and the pulsation so strong, I should suppose that the innominata is affected also.

Treatment.—As to the treatment of this man, of course it is only palliative. He was bled to sixteen ounces, and then twice to ten ounces; he is enjoined to keep perfectly still, and, to procure sleep and to remedy his cough, he takes scruple doses of the extract of conium at night. He had likewise a great feeling of exhaustion all at once, and from the tumour pressing more or less upon the lower part of the trachea and bronchiæ, from time to time he has difficulty of breathing, and therefore he occasionally takes ether and laudanum. Though the case, of course, must end fatally, it is very interesting on two accounts. You will see that he lies far best on his left side, whereas in a case of mere disease of the heart you will almost always find patients lie best on the right side, and for this plain reason, when the heart is in violent action it gives itself a much harder thump if it lie near the ribs, than it does if it be some distance from them. If the patient lie on his right side the heart is withdrawn more or less from the ribs, and the person is then in comparative ease. I have seen cases of disease of the heart, where without any affection of the aorta, patients have lain best on the left side; viz. where there has been pleuritic affection of the right side. Where there is anything the matter with the left side, it may be more than counterbalanced by an affection on the right. The case is also interesting on another account, from the patient having had a violent strain seven years ago. I have seen a great number of cases of aneurism arise from external injury. The case of aneurism of the abdominal aorta which you saw lately arose from mechanical violence, a load of fish having fallen upon the man's back. Three or four cases have come under my notice within this year or two of aneurism of the ascending aorta having arisen from violent blows inflicted on the front of the chest; in fact, the greater number of cases of aneurism which I see arise from this source. You know that if an artery become diseased in any way, if it become ossified or brittle, or cheesy, an aneurism may arise, but in the majority of instances it will be found to proceed from mechanical violence. It is said that in almost all cases where mechanical violence does produce an aneurism, more or less disease of the artery must have existed before, but I do not know that this is correct, because violence must affect a healthy as well as a diseased part. It is certain, however, that if a part be previously diseased it is more liable to suffer from any violence that may be offered than if that were not the case.

The strain in this man happened seven years ago, and it is astonishing at how very late a period the ill effects of violence may arise. I have seen organic disease of the head take place at the very spot at which a person thirty years before received a blow. The person has felt pain for a long series of years, and structural disease has subsequently developed itself, which has been followed by death. This man, it is to be remembered, as well as having a strain seven years ago, has had much straining since, and it is among the lower orders, who of course are most subject to mechanical violence, that aneurism chiefly occurs. This patient cannot live very long, and at his death we shall probably have an opportunity of examining the state of the parts.

No other cases have been presented, of sufficient importance to render it worth while for me to detain you.

DR. JOHNSON'S REPLY TO CHARGES BROUGHT AGAINST HIM BY DR. STEVENS.

To the Editor of THE LANCET.

SIR,—In your last Journal, Dr. Stevens has thought proper to prefer some grave charges against my character as an Editor—such indeed as have never before been preferred, during the whole course of my professional life. The first charge runs thus:—"That Dr. Johnson, at least, has wilfully endeavoured to mislead the public, by giving a very unfair statement of my views upon this subject." What will the profession think of Dr. Stevens' candour when I aver that the statement, and the only statement, which I can give of his views, were

written by himself, and given to me by his own hands!—Not having heard his paper read at the College, Dr. Stevens called on me, and requested that, in order to avoid mistakes or misconceptions, I would insert a report or analysis of his paper drawn up by himself. This I did; and this is the "unfair statement" (for I have never given any other exposition of his views) by which he says I "wilfully endeavoured to mislead the public!"

The next charge or insinuation is thus conveyed:—"It appears that Dr. Hacket is only acquainted with the contents of my paper on the blood, through the medium of Dr. Johnson's Journal; *or perhaps it was through the medium of the Doctor himself* that Dr. Hacket received information of those misrepresentations, &c." Dr. Hacket unequivocally states that it was through the medium of the paper in my Journal that he became acquainted with Dr. Stevens's views; and I have only to re-assert, that *that paper was written by Dr. Stevens himself!* As to the insinuation about my conveying information to Dr. Hacket, I can safely say that I never communicated directly or indirectly with Dr. Hacket in my life, nor did I know that such a man existed, till I received the document which I published. I envy not the heart of that man who can publicly make insinuations for which there is not an atom of support, and in which there is not an atom of truth.

Dr. Stevens next says that Mr. Greatrex's letter "is apparently in answer to a letter from Dr. Johnson." The letter is stated to be an enclosure from Dr. Hacket himself; and as to Mr. Greatrex, I never heard of his name before I received the said document, and never wrote a line to him, or received one from him, before or since.

But the most finished piece of effrontery is yet to come. Dr. Stevens says, that as he has accused Dr. Johnson of "wilfully endeavouring to mislead the public by *misrepresentations*, &c.," "it is but fair to show by *his own evidence*, that this is the case." Now, gentle reader, whence draws he this proof of my misrepresentations? From the report which he wrote himself in my Journal, and which he calls *my review of his paper on the blood!!!* This is too bad! But, indeed, the whole train of accusations against me leaves me but one solution of the enigma—namely, that the poor man has taken leave of his senses, and with them, of all correct memory of the past. I cannot suppose that any man in his right reason would lay himself open in the manner which Dr. Stevens has done. Instead, therefore, of retorting upon him the charge of wilfully misleading the public, which he has kindly endeavoured to fix upon me, I shall charitably suppose that the man wrote under a temporary adumbration of his mental faculties; and sincerely do I hope that the worthy Doctor is not destined to exemplify the adage of antiquity—"Quem Deus vult perdere, prius dementat."

Dr. Stevens constantly endeavours to mix me up in the discussion between Dr. Hacket and himself, though I did nothing more than publish the two documents written by the contending parties themselves, without taking any part, pro or con, in the controversy—except that of warning the profession against adopting the opinions of the one, till the statements of the other were before them. This is what Dr. Stevens calls "misleading the public." Probably he may find that the public think otherwise.

Dr. Stevens says I candidly admit that an evil passion was the principal cause why I attacked him. Where did I make this admission? Where did I attack him at all? I never mentioned him or his speculations till they were brought to my memory in the Westminster Medical Society; and then I only stated that I possessed a document from Dr. Hacket contradictory of Dr. Stevens' views and assertions, which should be immediately published. This is what Dr. Stevens calls an attack dictated by evil passion.* Heaven knows how little I thought, or think, of Dr. Stevens and his doctrines. I have something better to employ my mind; and, as for evil passion towards the man, why, what in the name of common sense could engender such passion? Up to the moment when I made known Dr. Hacket's paper, I had only acted the friend to Dr. Stevens, by publishing his own report of his own paper on the blood. But having published the statement of his antagonist, I am now converted into an enemy, capable of falsifying the truth, and wilfully misleading the public!

I am, Sir, your most obedient servant,

JAMES JOHNSON.

16th January, 1832.

P.S.—Your reporter, from the London Medical Society, has fallen into an error, which it is important to correct. I did not state that the diarrhœa, which was precur-

* My words were these (see LANCET, 10th December):—"A few weeks ago I received from Dr. Hacket a voluminous document, charging Dr. Stevens, among other things, with misrepresentation of facts as they occurred at Trinidad, and as forming certain data for the support of his hypothesis respecting the blood in fever." I made no charge of my own (how could I?) nor attempted to prejudge the question between the parties. By what species of logic does Dr. Stevens convert this statement into an attack upon him, and into a wilful attempt to mislead the public? Let Dr. S. quote my words, instead of making sweeping assertions, and I defy him to show anything in my letter which could possibly be construed into an attack, or into any deviation from truth. J. J.

sory of cholera, had continued six, seven, or ten days; but that it lasted from a few hours to many days, even to eight or ten, or more.

J. J.

LONDON HOSPITAL.

ALLEGED BREACH OF CONTRACT.

To the Editor of THE LANCET.

SIR,—As there has been so much said lately respecting the excellences of the London Hospital (vide LANCET, vol. 1, page 233), I beg your permission to publish a fact, which is intended to act as a caution to the unwary in bartering with lecturers for their ware. In the prospectuses issued from the above establishment it was announced, that Drs. Billing and Davies would lecture on the practice of medicine every Tuesday, Thursday, and Friday, at half past three o'clock. The latter gentleman, however, has thought proper to depart from the contract, and has intimated his intention of lecturing at 8 o'clock in the evening on Tuesdays, Thursdays, and Saturdays, a time excessively inconvenient to some, and utterly preventing others from attending. But thus it is, Sir, that the poor students have, daily, painful experience of the truth of the assertion you have often made, "that the interests of the many are constantly sacrificed to the convenience of the few."

VICTIMA.

January 17th, 1832.

THE LANCET.

London, Saturday, January 21, 1832.

PARLIAMENT reassembled on Tuesday evening last, and Mr. WARBURTON seized the first opportunity for proposing that the "Anatomy Bill" should be read a second time. After a brief, and, taken altogether, a very uninteresting discussion, the Speaker put the question, when a division having been demanded by the honourable member for Preston, it was found that there were only thirty-three members in the House, and, consequently, the motion fell to the ground, as the standing orders provide that forty members must be in the House to render a division valid.

In the few remarks with which the motion of the honourable member was submitted to the House, there was a total absence of statement or argument in proof of the expediency of passing such a Bill, Mr. WARBURTON having contented himself by merely referring to the principle which had been acknowledged and acted upon by a former House of Commons. Without thus relying upon the "acknowledgment" of a defunct House of Commons that the wants of society enjoined upon the Legislature the necessity of affording protection to our schools of anatomy, we apprehend that a more prudent course would have been pursued, if the honourable Member had explained the grounds upon which the former Bill had been rejected by a House of Peers not yet *defunct*, and had also explained the essential variations between that lost measure and the Bill now before the House.

In a somewhat lengthened commentary on the clauses of this proposed measure, in No. 435 of THE LANCET, we demonstrated, we believe to the satisfaction of every unprejudiced and intelligent man, that if this Bill were passed into a law, it would prove highly injurious to that science, and to those interests which, we fully believe, it was Mr. WARBURTON's earnest desire to effectually and permanently serve. Our objections, then, were distinctly stated. Are those objections shown by the supporters of the Bill to be unreasonable? Are they proved to have been made in a captious spirit? Not at all. The advocates of the measure content themselves by referring to the "acknowledgment of a principle" by an authority no longer in existence, and by stating that the schools want a supply of subjects, and that the public demand a protection against burkers. It would be far more philosophical, and not a whit less logical, if Mr. WARBURTON would prove, to the satisfaction of an intelligent community, in what manner his Bill will accomplish either of those objects.

We have contended, and still contend, that to legalise the *sale* of human bodies will tend, not only to increase the crime of "burking," but to excite, in the minds of the poorer classes, feelings so hostile to those anatomists who may engage in such a trade, that these functionaries will, ere a short time shall have elapsed, carry on their dissecting-room duties under the dread of popular fury and violence. The hospitals will be watched, the asylums will be watched, the jails and the workhouses will be watched, and on all occasions when it is supposed by the crowds of assembled persons that bodies are in a state of actual conveyance to the dissecting-rooms, the vehicle containing the *purchased* commodity will be attacked and torn to pieces, and the relic borne off in triumph to some place of fancied security. In such instances, what protection would "Inspectors" afford, and how would anatomists escape the threatened inflictions of popular vengeance?

As for the present Bill, we have the strongest reasons for believing that it will not pass the Lords. Hence we are the more anxious, that it should undergo those changes which we are certain would render it acceptable to that assembly, as well as to the mass of the community and to the general body of the profession.

Having already shown most fully, in previous articles, that dissection is not an unlawful practice, we would put it to the good sense of Mr. Warburton, and his coadjutors, whether it be not more reasonable—whether it be not far more expedient, not to legislate, at the present juncture, beyond repealing that portion of the objectionable statute which imposes dissection upon the bodies of murderers, and to interdict—by providing some severe penalty against convicted offenders—the *buying or selling* the dead body of a human being. Here we may state at once the two great remedies of these two great evils:—First, by a removal of the prejudice entertained against dissection, because it is connected with the punishment imposed for the worst of crimes; Secondly, by annihilating the basis of that *temptation* which has led to the commission of murder.

If our legislators will but attend to these two considerations — these all-important considerations, every benefit expected from the measure now before the house will follow in rapid succession. The public will sleep in safety, and the schools will be supplied plentifully with subjects who may perish from no other visitation than the one inflicted upon them by the great Author of nature. At all events, if it be not cut down to the dimensions dictated by reason and prudence, as suggested by those who have made the study of the subject a considerable portion of the business of their lives, Mr. Warburton must expect that they will oppose whatever interest they may happen to possess to the progress of the bill on its reception into the Upper House. Although we would reject with scorn every idea of appealing to *fear*, when reason alone so clearly points out the course which ought to be followed, yet we cannot shut our eyes to the fact, that the individual who, under the present excited state of the public feeling, could vote for legalizing the sale of the dead bodies of his poorer countrymen, may bring upon himself the destructive consequences of a power which he is quite capable of feeling, but which, we conceive, he cannot have the capacity to understand.

When the Spasmodic Cholera of Asia had reached Riga, on its travels towards the West, the English Government presented the President of the London College of Physicians with a *carte blanche* for the institution of a "Board of Health." The courtly physician shook his wand, and up rose his conjurors—an assemblage of wiseacres, not less ridiculous for their want of knowledge upon the subject they were

called upon to investigate, than absurd and impertinent in pretending to be capable of executing duties which they had not the ability to discharge. We at once entered the Council Chamber, exposed the impotence of the corruptly-appointed functionaries, discomposed their arrangements, denounced them to the community, obtained for them the speedy condemnation of public opinion, and, finally, the polite order of dismissal which was forwarded by their, at first too confiding, but at last undeceived, masters. No sooner was the "Council of Health" defunct, than up rose the "Central Board of Health." "Ye cannot be quickened unless ye die!" This latter body promised better things. There were within its circle, at least two well-informed practitioners of medicine; but events quickly proved that the members of this assembly also partook of, if they did not feast upon, unleavened bread. A miasm tainted the atmosphere, and although the "Board of Health" were avowedly appointed to communicate the best intelligence which they could procure upon the subject of cholera, they directed the current of their information into a channel, which, limited enough, God knows, in its course, is so filthy that it is despised by all honest men. Detected in the under-hand imposture,—alarmed at the fraud which they were evidently committing upon the public,—dreading the consequences of exposure, they closed the flood-gate which they had inadvertently opened into the dirty channel, and determined on sending out a new tide of intelligence under the title of "The Cholera Gazette."

Yes, members of the medical profession! Yes, members of the English community! You have a "Central Board of Health," composed of officers on *full pay*,—and receiving their full pay *because* they officiate as members of that Board,—who, not satisfied with the evil inflicted on the community by the actual visitations of the cholera, must needs send forth a "Gazette" to make known to the good people of the South of England, how many of their fellow countrymen in the North of England perish from the direful effects of the malignant cholera! A truly scandalous proceeding; but happily not so injurious to the community as it is disgraceful to the "Board," because the profession and the public have a little more sagacity than to pay one shilling, in every three or four weeks, for two sheets and a quarter of communications, consisting, in great measure, of the letters of individuals to whom the boast of appearing as the correspondents of the "Central Board" may seem no small prize. If the "Central Board" had possessed information which the medical journals and newspapers declined to circulate, then there would have been furnished some excuse for taxing the community by the publication of a "Cholera Gazette;" but, inasmuch as the Board has only communicated that information to a journal printed—not *published*—and inasmuch as they neglected to forward their documents, those few that may have been worth publishing, to a journal which could immediately transmit their papers through every part of the civilized globe, we may observe that they have exhibited in this transaction such obtuseness of intellect, or perversity of prejudice, that every reflecting man will henceforth look upon the whole of their proceedings with a degree of caution bordering upon distrust.

Should the future numbers of the *Cholera Gazette* (what a title!) furnish any passages worthy the perusal of the profession, and the attention of the public, we shall of course transplant them to our pages, as we have done with the following extracts, which are the only ones deserving the slightest attention in the thirty-six pages now before us, "published *by authority*."

QUARANTINE REGULATIONS.

The first article consists of a document which has been drawn up by the Central

Board of Health, for the guidance of the Privy Council in establishing a new code of quarantine restrictions for the present emergency, and we have heard that the Government has signified its intention to act upon the views it contains. The following may be regarded as a brief but sufficiently ample digest of the paper.

It commences by pointing out to their lordships, that the most effectual protection against the spread of infectious maladies would be an entire cessation of intercourse with the suspected. But such an extreme precaution as this is unnecessary; for after a certain number of days there is no risk from holding communication with a person who has previously been exposed to the disease. The old quarantine laws decide that forty days of seclusion are necessary. Yet in no contagious disease is more than one third of this period really necessary, and in the case of spasmodic cholera, much less. The history of that pestilence affords the following answers to the more important questions connected with the subject.

1. How long a time after an individual has been exposed to the contagion of spasmodic cholera, will elapse before the disease manifests itself by symptoms?—*Answer.* It is clearly established that the longest well-authenticated interval between the exposure and the manifestation has been *from five to six days.*

2. How long a time, after a patient is convalescent from cholera, will he retain the power of infecting others?—*Answer.* The Board, until more precise facts on this question can be obtained, must consider persons, ascertained to be but just convalescent from cholera, *as coming under the most aggravated circumstances of a foul bill of health.*

3. If merchandise be capable of conveying and afterwards communicating the infectious germ of cholera, how long a quarantine ought it to perform after arrival at any particular place from an infected district?—*Answer.* A long quarantine is so embarrassing to trade, it is so often eluded, the difficulties of enforcing it are so numerous, and the panic which it creates on shore is so dangerous, that some of the most commercial nations of Europe have lately thought it wise to reduce, very considerably, the quarantine restrictions against cholera. Thus:—

"Lubeck, a territory perfectly exempt from cholera, reduced its quarantine upon persons and merchandise arriving from infected ports, first, from forty-one to twenty-one, and then to ten, days. A similar reduction has taken place at Copenhagen. In Prussia, persons and merchandise from infected places are subjected to a detention of only five days. The Board of Health at Genoa have modified their quarantine code, taking as the basis of their new arrangements the maximum of the period of incubation of cholera, as determined by their own medical commission already quoted." The Board accordingly express themselves satisfied to be "guided by what experience has already established as to the laws which seem to regulate the propagation of cholera; and to hold in view the enlightened decisions which the sanitary authorities of other countries have come to on this subject."

They accordingly feel themselves justified in giving it as their opinion,

"1st. That the maximum of sanitary restriction, or quarantine of observation, for an individual in health, but suspected of carrying the infective germs of spasmodic cholera, as yet latent in his organization, need not exceed ten days.

"2nd. That the period of separation from the healthy, of an individual ascertained to be but just convalescent from cholera, need not exceed twenty days.

"3rd. That ordinary diarrhœa, continuing one or more days, being often the first symptom of cholera, persons arriving from infected places, labouring under even the mildest degree of purging, should not be admitted to a free pratique, before the eighth day after perfect recovery from the same.

"4th. That the clothes, bedding, effects, and sleeping places, of all persons on board vessels from infected ports, ought to be opened, aired, and purified, during three days after their arrival. * *

"5th. That the longest period of detention for airing and purifying marchandise of the most susceptible class, and arriving under the most suspicious circumstances, need not exceed fifteen days, to be counted from the day on which the airing may *bona fide* have commenced.

"Finally, The Board see no reason to believe, that the above suggestions, directed against spasmodic cholera alone, require any modification in reference to climate."

CHLORINE GAS.

The report from the *late* Board of Health, upon the Reputed Disinfecting Agents in Chlorine Gas, forms the eleventh article, and is, we are inclined to believe, one of the most important papers which the prevalence of the blue cholera has elicited. Never perhaps was an opinion more eagerly and universally adopted than that which ascribed anti-pestilential properties to chlorine gas, and never perhaps was a doctrine founded

on such fallacious reasons, or overthrown by such numerous and convincing facts. Of these, as we shall presently perceive, the history of the cholera has furnished no insignificant share, and has given us another proof that the phenomena of that singular malady are almost as fatal to all our hypothetical speculations, as to the functions and operations of the human organization.

In the brief, and, withal, most rudely-constructed report from the departed *board* on this important subject, we find it stated that immediately upon their appointment their attention was directed—1st, To the action of chlorine gas upon hemp and flax; and, 2dly, To its employment as a disinfecting agent. On both these points it appears that several experiments were performed, and depositions received from several eminent authorities. We pass over the consideration of the first for the present, and lay before our readers an extract from the report relative to the second:—

"The next point to which the attention of the Board has been directed, viz., the disinfecting powers of this gas, is one of great difficulty. Upon this subject the Board have requested the opinion of the physicians of the largest hospitals in London. Of these, Dr. Gregory, the physician to the Small-Pox Hospital, and Dr. Tweedie, one of the physicians to the Fever Hospital, are of opinion that the use of chlorine gas has had no effect in preventing the spreading of contagious fever in their hospitals.

"Dr. Roupell, physician to the Seaman's Hospital, in a late fever which existed in that institution, did not find that the use of chlorine gas prevented the disease from spreading to other patients, and to several of the nurses in the hospital.

"Drs. Latham, Bright, and Elliotson, physicians to St. Bartholomew's, Guy's, and St. Thomas's hospitals, report that they place their sole confidence in free ventilation, and in taking care to put fever cases as little as possible in adjoining beds. They have no observations to offer on the properties of chlorine gas, as a disinfecting agent.

"Mr. Robertson, surgeon to the convicts' hospital ship, "Canada," at Chatham, is of opinion, that the chloride of lime is eminently useful in preventing the extension of infectious disease.

"A very able letter from Mr. Macintosh, of Glasgow, to Mr. Warburton, has been transmitted to the Board, and amongst other observations mentions, on the subject of the use of chlorine gas, and of the chlorides, the opinion of Dr. John Cowper, one of the most eminent medical practitioners in Glasgow. This gentleman has had the most extensive opportunities of trying their effects, particularly during the prevalence of two epidemics in that city, in 1821, 1822, and 1827.

"From the result of his observations, Dr. Cowper is decidedly of opinion that the chlorides possess no power or efficacy whatever in destroying infection. It should be mentioned that the experiments of this physician were made in the vicinity of the largest manufactory of chloride of lime in the kingdom, viz. that of Mr. Tennant, of Glasgow, and chiefly upon individuals living within the immediate influence of the fumes of this substance.

"With reference to cholera, as it has appeared in the north of Europe, all the authorities that have been consulted (which are chiefly the reports of Sir William Crichton, of Dr. Albers, and Dr. Jœnichen, one of the principal Russian physicians) agree in stating that chlorine gas has been very extensively employed in the chambers of the sick, and in hospitals crowded with patients ill of this disease, without preventing the spreading of the infection.

"There is no doubt whatever, that chlorine gas is quite efficacious in destroying smells arising from filth or from putrid effluvia.

"The evidence above detailed, appears to the Board quite conclusive on this point, that chlorine gas is utterly inefficient in preventing the spreading of contagious diseases in hospitals or other places, where there is a fresh supply of infection continually emanating from patients labouring under such diseases; and they have further to remark, that its employment in such way would be decidedly injurious, if interfering with that free and thorough ventilation, which is more essential than any other condition whatever, to the healthy state of these establishments."

With this powerful body of evidence before them, and, moreover, the testimony of the authentic mercantile returns to the fact, that several hundred ships laden with hemp and flax, and others with wool and hides, from infected ports of the Baltic, had arrived at the different quarantine stations in this country between the 1st of June, 1831, up to the period when the Board commenced the investigation, without either importing or communicating infection, it cannot but appear strange that that learned body did not once endeavour to rid the commercial

interests of this country from the useless and dangerous nuisance of chlorine fumigations. Actuated, however, by a degree of caution which, at best, appears to us to have been perfectly superfluous, they caused some curious experiments to be made; first, as to the effect of chlorine on the fibre of flax and hemp; and, secondly, on the action of chlorine, diluted so as to be innocuous to these materials on the contagious matter of small-pox.

"On the first point two gentlemen have made experiments, Dr. Ure and Mr. Fincham.

"In the experiments of Dr. Ure, in which the chlorine was generated in a retort, by adding dilute sulphuric acid to chloride of lime, the fibre of the hemp exposed to the action of the gas was totally destroyed.

"Mr. Fincham operated with the chlorine (slowly evolved from a solution of the chloride of lime) upon various portions of hemp, weighing from a few ounces up to 400 pounds, tied up and pressed very tightly, and, according to the testimony of Sir William Pym, a member of the Board, and of Mr. Stone, the principal officer in Chatham dock-yard, the fibre was not in the least injured.

"Samples of the hemp so treated were likewise submitted to Mr. Faraday, and that gentleman thought the results were favourable, for the hemp appeared to have been penetrated, without injury to the fibre."

The slightest attention is sufficient to show that the only legitimate inference from the preceding experiments is, that great care, and nice manipulation, may protect the merchandise during the process simply by moderating the quantity of the chlorine employed; but that at the same time a coarse or incautious workman might by the least oversight, irreparably damage a valuable cargo. The importance of the latter contingency will readily be estimated by all mercantile men, who must be fully aware of the almost insuperable difficulty with which workmen are induced to pay the least attention to any process of this description. But of this more anon. We now turn to the influence of the chlorine on small-pox matter.

"Some small-pox matter, both on glass and on linen cloth, was procured from the Small-Pox Hospital. This was divided into two parcels, one of which, No. 1, was immersed for three hours in a vessel containing one volume of chlorine gas, and twenty-four of atmospheric air. The other, No. 2, was immersed for the same time in a vessel in which there was only one-fiftieth volume of chlorine gas. This process was conducted by Mr. Faraday; with No. 1, the following trials were made; with the point of a lancet three long scratches were made on the arm of a child, so as to draw blood; a piece of the linencloth (having still adhering to it much of the matter in which it had been soaked) was placed over the wounds, and bound on the arm by a strap of adhesive plaster. Two other persons were inoculated in the usual manner in six places, with the matter on glasses, which was previously scraped together into a small heap, and moistened with a little water. All these failed to produce any disease. With No. 2, four individuals were inoculated with the same matter, in three places in each arm, with no other effect than a slight degree of inflammation round some of the punctures. All these seven persons have since been vaccinated, and have had the disease in the most perfect and regular way, thus showing their susceptibility to have taken small-pox, had not the virus been deprived of its contagious quality by the influence of the chlorine gas.

"Another supply of small-pox matter was obtained from the Small-Pox Hospital, part of which was exposed for three hours, by Mr. Faraday, to diluted chlorine gas, in the proportion of one volume in a hundred of atmospheric air; with this matter two children were inoculated in three places on each arm, without any effect; both these children were afterwards vaccinated, and had the disease in a perfect manner.

"These are the only experiments which give any countenance to the notion that chlorine gas has any power in destroying contagion. It ought to be observed, that two portions of hemp were subjected to the same proportions of chlorine gas and atmospheric air, and are reported by Mr. Stone to be uninjured."

We cannot even give the few remaining *disinterested* partisans of chlorine the consolation of allowing any weight to the preceding experiments, and still less to the extraordinary counter-proof, whether instituted by the instinct of the Board, or the sagacity of Dr. Gregory, it is difficult and not very important to determine.

To render the experimental proof in the least degree complete or conclusive, it should have been very differently conducted. One and the same specimen of small-pox matter should have been divided into three portions,—one exposed to atmospheric air alone for the same period that the second

was acted on by dilute chlorine, and the third preserved in the usual way without any exposure. Inoculation should then have been performed with each of the three specimens, and this experiment repeated on a sufficiently extensive scale. The results would then have at least been rational, and it perhaps would have been found that the atmospheric air was the principal disinfecting agent. It is perfectly true that such an extensive inoculation with small-pox matter would be objectionable in a legal and moral sense. We do not mean to maintain the propriety of the institution of any such experiments, we only wish to show the extent to which the evidence in the report authorises us in drawing any conclusion on the subject. On the whole we feel perfectly satisfied that the experiments on small-pox matter described in the report are perfectly useless with reference to the point at issue.

In addition to the preceding facts, demonstrative of the total inutility of chlorine in destroying infectious principles, whether tangible or aerial, we beg leave to quote the following statement, by M. Bousquet, respecting its agency on cow-pock matter, leaving those who believe in the applicability of experiments on the small-pox matter to the phenomena of aerial animal poisons, to illustrate their doctrine by the subsequent facts, in the same strictly logical manner.

M. Bousquet's observations occur in a report to the French *Academie de Médecine*, on a new mode of inoculation proposed by M. Guillon.

"The Academy may, perhaps, hold in recollection the experiments of M. Pourcelot, who, in order to favour the ascent of vaccine matter in capillary tubes, conceived the idea of mixing it with water. It then became a question, whether this admixture might not deteriorate the virus, and, in order to determine it, I instituted experiments under the auspices of the Academy, which demonstrated that the dilution did not exercise the least influence on the energy of the infection. It is also well known, that the admixture of blood is not in the least degree prejudicial to the effect of the vaccination. Blood and water being equally ineffectual in modifying or restraining the power of the virus, it occurred to me to try the effects of the chlorides, in order, at the same time, to measure the resistance of the vaccine matter to disinfecting agents, and to test the power of these chlorides on virus in general. This project was communicated to M. Labarraque, who embraced the idea with eagerness, and was kind enough to supply us with the chloride for experiment. We agreed that a few drops of chloride of soda should be diluted with a little water, and that a drop of this chloruretted solution should be mixed with an equal quantity of vaccine matter. M. Labarraque confidently predicted a negative result, but the event did not justify his expectations, for on the third or fourth day the inoculated parts began to inflame, and the vesicles run their usual course. Thinking that the quantity of chloride at first added might not have been sufficient, we increased it until we brought it into equal proportions with the vaccine matter, and, nevertheless, the virus triumphed over all these obstacles. M. Boulay, presuming that the chlorine was perhaps defective, supplied us with some prepared for the purpose, under his own inspection, but nothing could prevent the development of the vaccine vesicle, and the successive phenomena usually shown in its progress."

If our readers will compare the weight of the direct testimony of M. Bousquet with that of the negative results of Dr. Gregory, we believe the anti-pestilential influence of chlorine will be admitted to receive but little support from Dr. Gregory's experiments.

Taking all the preceding facts into our deliberate consideration, we cannot resist the conviction that this mischievous source of delusion is now fully and satisfactorily exposed; and we trust we shall hear no more of the *disinfecting* agency of chlorine, the chlorides, &c. Their agreeable powers as correctors of stenches we do not deny, but we entreat the community not to be misled by the vulgar and most erroneous notion, that offensive smells and infectious miasms, are either identical in their nature, or usually associated in their existence. The knackeries of Smithfield and of Montfaucon, the atmosphere of the dissecting-room, the tan-yard, and the slaughter-house, though reeking with putrid and almost intolerable exhalations, are yet fully proved, by the most extensive statistical researches,* to be not only compatible with, but highly conducive to, the healthiest condition of all

* Vide M. Parent du Chatelet's Papers in the Annales d'Hygeiene Publique for July, 1831.

our functions. Again; turn to the poisonous jungle and pestilential fen, and the nicest sense of smelling detects no disagreeable odour. Nay, so far from any identity or even analogy existing between the agency of the fœtid stenches which chlorine corrects and the inodorous poisons which we now know it is unable to antagonise, facts innumerable and incontrovertible tend to prove that in the putrefactive fermentation these poisonous emanations find their most effectual antidote, or by it is their very generation entirely prevented. The reader who wishes to obtain additional and most copious information on this important topic, will find it by referring to our articles "on the influence of exhalations from putrid animal matter, considered as a reputed agent of disease." Meantime, in addition to this demonstration of the inutility of chlorine, we feel also bound to express our decided belief, that from the tendency of *small* quantities of this gas to prevent putrefactive fermention,* while it cannot, itself, in such small proportion, produce destruction of the organic matter, it contributes highly to keep up that peculiar condition in which human bodies and other sources of contagious poison are most abundantly prolific of their pestiferous exhalations; and thus that chlorine, in *small* quantities, becomes the adjuvant, instead of the enemy, of pestilence, while, in a larger proportion, it corrodes and destroys the merchandise or other matters which it was intended to disinfect.

We take leave then of the subject for the present, by offering the mercantile classes our sincere congratulations on the probability that now exists of their being speedily relieved from the annoyance they experience through inconvenience and injury resulting from the practice of chlorine fumigations.

* See Essai sur le Fermentation Comparé à la Contagion.—*Journal de Chimie Medicale.* December, 1831. Par M. Henri Braconnot. An article of which we may give an analysis on some other occasion.

CASE OF

CHOLERA AT DONCASTER,

Described in an Official Report from the Board of Health in that Place.

On the 6th Jan., two sailors arrived in Doncaster, and stopped for the night at Flintham's lodging-house, in Marsh Gate. They had resided five months at Stockton, which place one of them said they left six weeks ago, wandering, since, about the country. After eating a hearty supper, they retired to rest. At 6 o'clock next morning, the younger, a stout healthy man, was seized with purging, and went twice to the privy. He arose next day not much indisposed, and, after breakfasting, started with his companion for London. They arrived at Balby, 1¼ mile from Doncaster, and asked alms, which were refused; on which the younger man, in much exhilaration of spirits, said to his companion,—"Jack, we shall have better luck at the next place," and fell down, as his companion believed, dead. He soon revived, took half a cup of milk, and returned to Doncaster, which he reached with great difficulty in about two hours. At the poor-house some gin was given him, and his comrade carried him back to Flintham's, where the patient was attended by four members of the Medical Board of Health, and presented the following appearances:—Great prostration of strength; the whole surface of the body presenting a leaden hue; no pulse at the wrist; pulsations at the heart not exceeding twenty in a minute; tongue and breath cold; surface of the body cold and clammy; great oppression of breathing; spasmodic cramp over the whole body; insatiable thirst; constant praying for cold water; stools, liquid without fetor, like rice-water, passing involuntarily; no urine passed; severe vomiting, with violent spasms. Stimulants externally and internally were administered. Hot-air-baths, and every other means, were employed without success. The man gradually sunk, and died at two o'clock in the morning of the 7th.

Two hours before death the patient was lying on his back in a state of apparent asphyxia. No snoring or rattling; great congestion, especially about the heart and lungs; body of a deep blue tint, as if dipt in a solution of indigo; ten heavy pulsations only at the heart within a minute, the chest heaving four times in the same period; muscles for the most part rigid; cold moisture pervading the skin, and a heavy fetor emanating from the person; breath chill; tongue protruding from the mouth, and cold as marble.

ANALYTIC NOTICE.

Experiments on the Disinfecting Powers of Increased Temperatures. By William Henry, *M.D., F.R.S.*

In the *Philosophical Magazine* and *Annals*, for November 1831, Dr. Henry, of Man-

chester, described a series of experiments, which he performed with a view to *investigate* the effects of increased temperatures on various infectious principles. A continuation of these researches appears in the same Journal for the present month, and we believe we cannot devote a moderate portion of our pages to a more interesting subject, especially when considered in juxtaposition with the important Report on the reputed disinfecting agency of chlorine, which we have condensed in the foregoing article.

From the experiments contained in his first paper, to which our limits do not permit us to allude in greater detail, Dr. Henry conceives that he has established—

First, That raw cotton, and various kinds of fleecy goods, manufactured for clothing from that or other materials, sustain no injury whatsoever, either of colour or texture, by exposure for several hours to a dry temperature of nearly 212° Fahrenheit.

Secondly, That the infectious matter of cow-pock is rendered inert by a temperature not below 145° of the same scale.

From the second of these results Dr. Henry concludes, that the more active contagions are probably destructible at temperatures not exceeding 212°. The appearance of the cholera at Sunderland induced him to extend the investigation, in the hope, as he expresses himself, that, should cholera be proved to be a contagious malady, his results might tend to put a check to its devastations.

The only alleged contagious diseases to which the author could find access, were typhus fever and scarlatina, the infectious properties of which, after much experience and deliberation, he could not find any rational motive for denying, although he frankly and pointedly adverts to the controversies existing to this day regarding the former malady. A case, however, of peculiarly well-marked typhus having occurred in one of the fever wards of the Manchester Infirmary, Dr. Henry availed himself of the opportunity for instituting the following experiments.

"During the night, between the tenth and eleventh days of the malady, a flannel jacket, made without sleeves, was placed in contact with the body of the patient. On the following day, it was replaced by another; and that, on the day after, by a third; each of which was worn by her for several hours. The first waistcoat, after being submitted to a temperature of 204° or 205° Fahr., for an hour and three quarters, was kept beneath, and within twelve inches from, the nostrils of a person engaged in writing during two hours. The second, after being heated in a similar manner, was worn next the body of the same individual for two hours. The third, after exposure to heat, was kept in an air-tight tin canister for twenty-six days, with the view of giving activity to any contagious matter, which might possibly have escaped decomposition. It was then placed within twelve inches of the face of the same person for four hours; a gentle current of air being contrived to blow upon him from the flannel during the whole time. No injurious effects were experienced."

On these experiments, Dr. Henry remarks—

"The negative results thus obtained are only, I am well aware, entitled to that proportional share of weight, which would have been due to them if they had formed a part of a numerous series of experiments. For the reception of contagion, even by a person situated within its sphere, depends so much on predisposition, and on other circumstances, that a much larger induction of facts would be necessary, to establish the absence of *fomites* in any case like the foregoing. I do not, therefere, lay much stress on so limited a number of facts. It may be proper, however, to mention, that, during the first trial, the person subjected to it was much fatigued by previous exercise; and that at the close of it he had observed an unbroken fast of eight hours,—a state of the animal system extremely favourable to the efficacy of contagion, if any had been present."

It was, however, in scarlatina that Dr. Henry was most desirous of trying the extent of the supposed disinfecting agency of increased temperature; the evidence of the frequent propagation of that disease from person to person, and by clothes, bedding, &c., appearing to him perfectly conclusive, and beyond all chance of disputation. A patient, suffering under the anginose form of the malady, soon afforded him the desired opportunity of extending his inquiries:—

"To make the most of this excellent example of the malady, a succession of flannel waistcoats were worn, each for several hours, in contact with the body of the patient, and were then put into dry bottles,

which were well corked, tied over with bladder, and laid by for use. Other opportunities of obtaining waistcoats similarly infected soon occurred, in the cases of Sarah Gerrard, a younger sister of the first patient; of William Johnston, æt. eleven; and of Robert Green, æt. fifteen. In Johnson, not only were the appearances quite unequivocal, but he was the last of four children (not all of one family) who had been infected, in regular sequence, by communication with each other.

"1. A waistcoat, which had been worn all night by the elder Gerrard, a day or two after the appearance of the scarlet eruption, was heated for four hours and a half at 204° Fahrenheit, and on the 8th of November was applied to the body of a boy, æt. six years. No symptom having shown itself on the 15th, a second waistcoat was then applied to him, which had been worn more than twelve hours by Johnston on the second day of the scarlet efflorescence, and then heated at temperatures varying from 200° to 204° Fahrenheit, during two hours and three quarters. After an interval of twenty-two days the boy, who still continued to wear the same waistcoat, remained perfectly well.

2. "A waistcoat, which had been worn twenty-two hours by the elder Gerrard on the fourth and fifth days after the appearance of the eruption, was on the 19th of November heated three hours at 204°. It was, after this, worn by a girl, aged twelve years, till the 30th, without effect. Another waistcoat, which had been worn by Sarah Gerrard, was then substituted, but without any effect ensuing.

"3. A waistcoat, put on by Sarah Gerrard on the second day of the efflorescence and worn by her three days, was applied, Nov. 19th, after it had been heated two hours at 200°, to the body of a boy aged ten years. On the 30th, a second waistcoat, which had been worn by Robert Green during the first and second days of the eruption, and which had been kept in the disinfecting apparatus at 204° during one hour only, was substituted; but no symptoms of infection have appeared.

"4. A waistcoat, which had been worn by the elder Gerrard seventeen hours on the 7th and 8th of November (the second and third days of the eruption), was kept closely corked up in a bottle till the 26th, then heated four hours and a half, at temperatures varying from 200° to 206°, and applied to a girl aged thirteen years. On the 30th of November, no effect having been produced, another waistcoat was substituted, which had been worn eleven hours by Johnston on the third day of the efflorescence, and then disinfected by a temperature of 204°, applied during two hours. [illegible] they had resided [illegible] at Stockton [illegible] lintham's lodging-house, in Marsh Gate- [illegible] ives in this case."

Dr. Henry assures us, that in all the foregoing cases, the children had never been previously afflicted with scarlatina; that they were consequently susceptible of the disease; and that they were closely watched lest any trivial symptoms might pass unobserved. From these facts he concludes, that "by exposure to a temperature not below 200° Fahr., during at least one hour, the contagious matter of scarlatina is either dissipated or destroyed." Dr. Henry thinks it is rather decomposed than merely volatilised or exhaled, but what is the lowest temperature, or what the quickest period of time in which the decomposition can be effected, he thought it of no practical moment to determine. Besides, the chain of experiments could not be completed without the actual communication of the malady —a result he thought it unjustifiable to induce.

The circumstances under which the experiments were conducted, Dr. Henry believes to demonstrate that "*the disinfecting agency belongs to heat alone*," for the vessels containing the vestments having been closed, ventilation could have had no share in the effect.

"The phenomena then are reduced to their simplest form, and the results put us in possession of a disinfecting agent, the most searching that nature affords—one that penetrates into the inmost recesses of matter in all its various states. As a disinfectant of articles which are capable of imbibing and retaining contagion, heat is greatly superior to the vapours or gases used for the same purpose, inasmuch as the transmission of the latter may be stopped by a few folds of compressed materials, while heat, if time enough be allowed, finds its way in spite of all obstacles."

On the mode of applying this principle practically on the large scale, Dr. Henry does not enter; he contents himself by throwing out the suggestion for the consideration and mechanical skill of experienced engineers. Dr. Henry does not regard steam as indispensable; he believes that currents of heated air may be found more economical and equally effectual.

Dr. Henry concludes his second paper by the description of an apparatus, a woodcut of which is given in the *Philosophical Maga-*

_chester, described a series of experiments, quantities of clothing, valuable articles, &c. The contrivance is simple, and well calculated to ensure the full and safe application of the principles he lays down.

We have now afforded our readers an adequate analysis of Dr. Henry's paper, and we leave them, without lengthened comment, to form their own opinions of the merits and practicability of the proposal it contains. The welfare of mankind, and the particular interests of commerce, require that a proposal such as this, constructed as it is, at least upon a plausible, foundation, and emanating from so well-known and respectable an individual, should receive the deliberate consideration of the public. At the same time a single glance at the "chlorine report," and our commentaries thereupon, must induce us to pause before we again permit our conviction to be led captive by a limited number of experimental trials, and before full confidence is reposed upon the supposed efficacy of a measure which future experience may show to be useless, if not injurious, in its results.

We are bound in justice to add, that Dr. Henry is by no means the first author who has speculated on the application of heat as a disinfecting agent. Sir Humphrey Davy, for example, distinctly alluded to it in his evidence before the Quarantine Committee in 1822. Again; many of the processes in our arts and manufactures might have afforded Dr. Henry ample evidence of the high degree of temperature which may be applied to various fine organic tissues with perfect safety to their texture, and without detriment to their subsequent durability.

The information obtained on this subject by the Central Board of Health, has induced that body to recommend that the clothes worn by, and the bedding used by, patients supposed to have been labouring under the influence of malignant cholera, shall, in all cases, be subjected to the influence of heat in a stove or oven, or immersed in boiling water.

The Cyclopædia of Practical Medicine. Part I., Royal 8vo. pp. 112. London: Sherwood and Co. January, 1831.

We perused the "prospectus" of this work with certain misgivings, apprehension lest the apathy, or carelessness, of some of the numerous contributors, might attach discredit to the very first part which might be published. That part, however, is now before us, and after a careful examination of its contents, we are enabled to express cordial satisfaction with the execution of the duties imposed both upon the editors and the contributors. Many of the articles are excellent; most of them good, and but an insignificant proportion deserving the reproach of being pronounced "bad." Of the truly excellent, we may specify the paper on Exploration of the Abdomen, by Dr. Forbes; on Acupuncture, by Dr. Elliotson; on Amaurosis, by Dr. Jacob; on Angina Pectoris, by Dr. Forbes; and Aneurism of the Aorta, by Dr. Hope. Of the articles of sufficient, though not extraordinary, interest, are those by Dr. Rogel on Age; on Abscess, by Dr. Tweedie; on Alopœcia, by Dr. Todd; and Anæmia, by Dr. Marshall Hall. Anxious for the reputation of British medicine, we must entreat the "Editors" of the Cyclopædia either to change their contributors on *Materia Medica* altogether, or to request the present performers in that line to study their parts a little more carefully before their next appearance. A perusal of the articles "Antispasmodics" and "Anodynes" will show the reader the justice of this appeal.

The nature of the work is, of course, such as to render an analysis of its contents out of the question, but we doubt not that the present number will obtain the extensive currency which, on the whole, it so well deserves.

The following remarks were made by Dr. Elliotson at the close of his paper on the phrenological developments of Bishop and Williams, reported in our last (page 533), but were then accidentally omitted.

Two duties are to be learnt from the lives and organisation of Williams and Bishop. In the first place humility and gratitude on the part of those whose lives are unstained. Humility not to ascribe their own superiority to themselves, but to their happier organisation, and gratitude for it. The second duty, seeing that such unhappy organisations exist, is to lessen as much as possible all circumstances in society that present temptation, and to increase all cir-

cumstances that tend to encourage virtue. But for the deplorable state of our regulations respecting dead bodies, these men would probably not have been induced to commit murder. It is unquestionable, that these organisations could never have given rise to shining intellectual or moral characters,—that equal scientific opportunities, and equal incentives to virtue, could not have produced equal fruits in them as in the organisation of Gall, whether bestowed when the head was naturally developed, or when it had only its native dispositions to development in play. But by good and early education, and in such a state of society, if it be possible, in which any man may escape poverty who is industrious and virtuous, these men might have been decent Christians—disagreeable probably, but not criminal.

LONDON HOSPITAL.

REMOVAL OF THE SUPERIOR MAXILLARY BONE.

Jan. 4. This operation has again been performed at this hospital, by Mr. J. Scott.

After the necessary arrangements for the operation were completed, the patient, a strong-looking man, about 45 years of age, was laid on the operating table. There was a swelling over the situation of the antrum, on the right side of the face, about the size of a pullet's egg, which passed on the nostril and eye, so as to give a very unsightly appearance to the countenance. We were informed that the diseased growth first appeared about four months since, and had not occasioned much inconvenience until lately, when some lancinating pains were experienced.

An assistant having compressed, with his finger, the common carotid artery, Mr. Scott commenced by making an incision through the integuments of the face, from within half an inch of the inner canthus of the right eye to the commissure of the lips. On dissecting back the cheek, rather profuse hæmorrhage from the facial artery and surrounding small branches ensued; ligatures were consequently applied, and pressure made by lint on the bleeding surface. It was then thought necessary to tie the common carotid, which was accomplished after an interval of twenty-two minutes, occupied in securing the vessel. The integuments were then completely reflected from the bone, and the strong cutting forceps applied to the symphisis of the upper jaw, by which it was instantly divided; the ascending process of the superior maxillary bone, near the point of its attachment to the nasal, and the junction of the superior maxillary and malar bones, were cut through successively in a similar manner, and the mass, consisting of the superior maxillary bone, diseased antrum, and a small strip of the anterior portion of the floor of the orbit, was taken away with the assistance of a scalpel. Two or three minutes were then employed in removing some spiculæ of bone and small portions of the disease, that remained. After passing some dossils of lint into the bottom of the wound, the lips were brought together and confined by four sutures, over which some strips of adhesive plaster were applied.

The patient throughout behaved with the most stoical fortitude. On being asked by Mr. Scott whether he suffered much during the operation, he answered, with a smile, "Oh, I'll tell you another time," and cheerfully undertook to walk to his bed. He was greeted with the hearty plaudits of all the spectators.

The operation, which occupied three-quarters of an hour, was conducted with coolness and decision.

We find, since the above report was written, that the patient is dead, having expired in convulsions.

THE CHOLERA "SCRIBLOMANIA."

To the Editor of THE LANCET.

SIR,—Should you consider the following epigram likely to amuse any of your readers, or worthy of insertion in your pages, it is much at your service.

I am, Sir, yours, &c.

J. C. BADELEY.

Chelmsford.

IN SCRIBLOMANIAM DE CHOLERA.

Scribimus indocti doctique—furit cacoethes!
Passibus haud æquis jam Cholera ipsa furit,—
"Quid vetat et nosmet?" tum musæat Paulus, et inde
Hâc prece compellat numen Apollineum;—
"Phœbe pater! dum tanta cohors te poscit amatque,
Atque tuas lauros tot medici rapiunt;
Dum resonant Choleræ Morbi loca cuncta timore
Atque omnes præstat quæ medicina rogant;
Dum nihil auditur nisi 'Mox aderit!'—'Moriemur!'
Per quam etsi veniat non via certa patet:
Nescia adhuc morbi dum tota cohors medicatrix
Sanari possit quâ ratione docet;
Quid valeat tantâ Paulum secernere turbâ?
Unde novo discat Paulus honore frui?
Quid scribam ut propriâ cingam mea tempora lauro?
Dic mihi, quid faciam?" Dixit Apollo, "*Tace!*"